

=> file hcaplus

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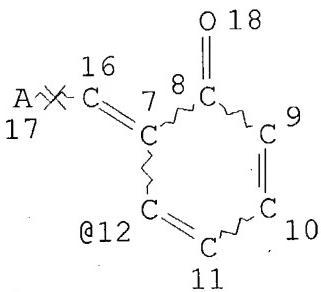
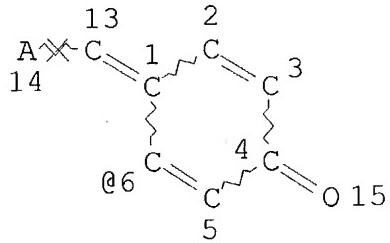
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FILE COVERS 1907 - 30 Jan 2004 VOL 140 ISS 6
 FILE LAST UPDATED: 29 Jan 2004 (20040129/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

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L1 STR



G1 19

VAR G1=6/12

NODE ATTRIBUTES:

| | | | |
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| NSPEC | IS RC | AT | 13 |
| NSPEC | IS RC | AT | 14 |
| NSPEC | IS RC | AT | 16 |
| NSPEC | IS RC | AT | 17 |

DEFAULT MLEVEL IS ATOM

DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED.

NUMBER OF NODES IS 19

STEREO ATTRIBUTES: NONE

L3 SCR 1139
L6 5316 SEA FILE=REGISTRY SSS FUL (L1 AND L3)
L7 9815 SEA FILE=HCAPLUS L6
L8 198706 SEA FILE=HCAPLUS BATTERY OR BATTERIES OR (ELECTROCHEM? OR
ELECTROLY? OR GALVANI? OR WET OR DRY OR PRIMARY OR
SECONDARY) (2A) (CELL OR CELLS)
L9 53 SEA FILE=HCAPLUS L7 AND L8
L10 163 SEA FILE=HCAPLUS L7 AND (ELECTROLYT?)
L11 142 SEA FILE=HCAPLUS L10 NOT L9

=> d his

(FILE 'HOME' ENTERED AT 10:35:00 ON 30 JAN 2004)

FILE 'LREGISTRY' ENTERED AT 10:37:27 ON 30 JAN 2004

L1 STRUCTURE

FILE 'REGISTRY' ENTERED AT 10:44:56 ON 30 JAN 2004

L2 8 S L1 SSS SAM
L3 SCREEN 1139
L4 30 S L1 AND L3
L5 30 S (L1 AND L3) SSS SAM
L6 5316 S (L1 AND L3) SSS FUL
SAV L6 WEI362/A

FILE 'HCAPLUS' ENTERED AT 12:33:05 ON 30 JAN 2004

L7 9815 S L6
L8 198706 S BATTERY OR BATTERIES OR (ELECTROCHEM? OR ELECTROLY? OR G
L9 53 S L7 AND L8

FILE 'LCA' ENTERED AT 12:36:39 ON 30 JAN 2004

FILE 'HCAPLUS' ENTERED AT 12:41:53 ON 30 JAN 2004

L10 163 S L7 AND (ELECTROLYT?)
L11 142 S L10 NOT L9

FILE 'HCAPLUS' ENTERED AT 12:45:47 ON 30 JAN 2004

=> d 19 1-53 cbib abs hitstr hitind

L9 ANSWER 1 OF 53 HCAPLUS COPYRIGHT 2004 ACS on STN
2003:260738 Document No. 138:257945 Photoelectrochemical device with
semiconductor and organic compound generating radical compound.
Satoh, Masaharu; Nakahara, Kentaro; Iriyama, Jiro; Iwasa, Shigeyuki;

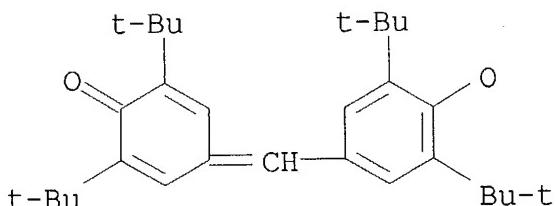
Morioka, Yukiko (NEC Corporation, Japan). U.S. Pat. Appl. Publ. US 2003062080 A1 20030403, 13 pp. (English). CODEN: USXXCO.
APPLICATION: US 2002-253085 20020924. PRIORITY: JP 2001-293959
 20010926.

AB A photoelectrochem. device having new construction, enables a large stable photoelec. conversion element, an energy storage element and the like to be manufd. at low cost. The photoelectrochem. device is provided with an org. compd. which generates a radical compd. through electrochem. oxidn. reaction and/or redn. reaction, and a semiconductor arranged in contact with the org. compd. Preferably, the generated radical compd. has a spin d. of 1020 spins/g or more. In addn., it is preferable to use as the org. compd. an org. polymer compd. with the no. av. mol. wt. ranging from 103 to 107. More specifically, the photoelectrochem. device comprises a semiconductive electrode having a semiconducting layer, an org. compd. layer that is in contact with the semiconductive electrode and generates a radical compd. through electrochem. oxidn. reaction and/or redn. reaction, a counter electrode opposing to the semiconductive electrode, and an electrolyte layer arranged between the org. compd. layer and counter electrode. In the photoelectrochem. device, irradiating light on the semiconductor effects an elec., optical, or chem. change through electrochem. oxidn. reaction and/or redn. reaction.

IT 2370-18-5, Galvinoxyl
 (photoelectrochem. device with semiconductor and org. compd.
 generating radical compd.)

RN 2370-18-5 HCAPLUS

CN Phenoxy, 4-[[3,5-bis(1,1-dimethylethyl)-4-oxo-2,5-cyclohexadien-1-ylidene]methyl]-2,6-bis(1,1-dimethylethyl)- (9CI) (CA INDEX NAME)



IC ICM H01L031-00
 NCL 136256000; 136263000; 429111000
 CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
 Section cross-reference(s): 38, 74, 76

IT Memory devices
 Optical imaging devices
 Optical sensors
 Photoelectric devices
 Photoelectrochemical cells

Primary batteries

Semiconductor materials

Solar cells

(photoelectrochem. device with semiconductor and org. compd.
generating radical compd.)

IT 96-49-1, Ethylene carbonate 105-58-8, Diethyl carbonate
2370-18-5, Galvinoxyl 2564-83-2, 2,2,6,6-Tetramethylpiperidinoxy radical 9011-17-0, Hexafluoropropylene-vinylidene fluoride copolymer 21324-40-3, Lithium hexafluorophosphate 28408-25-5 50926-11-9, Ito (photoelectrochem. device with semiconductor and org. compd.
generating radical compd.)

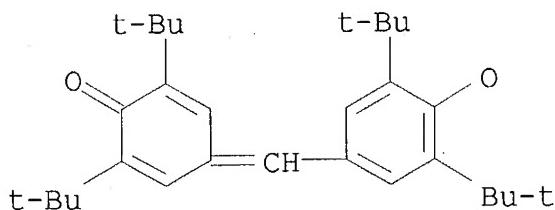
L9 ANSWER 2 OF 53 HCPLUS COPYRIGHT 2004 ACS on STN
 2002:773834 Document No. 137:297374 Radical compound **battery**
 Sato, Masaharu; Iwasa, Shigeyuki; Morioka, Yukiko; Nakahara, Kentaro (NEC Corp., Japan). Jpn. Kokai Tokkyo Koho JP 2002298850 A2 20021011, 12 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 2001-101010 20010330.

AB The **battery** has a cathode, an anode, and an electrolyte and contains granules contg. an org. compd. electrode active mass, which forms a radical compd. upon oxidn. and/or redn.; where the granules are composites having .gtoreq.2 compns. Preferably, the radical compd. has spin concn .gtoreq.1020 spins/g on its ESR spectrum, and the granules contain the compd. and an electron conductor. The **battery** is a secondary Li **battery**

IT **2370-18-5**
 (composite granules contg. radical compd. active mass and electron conductors for secondary lithium **battery** cathodes)

RN 2370-18-5 HCPLUS

CN Phenoxy, 4-[[3,5-bis(1,1-dimethylethyl)-4-oxo-2,5-cyclohexadien-1-ylidene]methyl]-2,6-bis(1,1-dimethylethyl)- (9CI) (CA INDEX NAME)



IC ICM H01M004-60
 ICS H01M004-62; H01M010-40
 CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
 ST secondary lithium **battery** redox radical compd composite

granule; electron conductor radical compd granule **battery** electrode

IT **Battery cathodes**

(composite granules contg. radical compd. active mass and electron conductors for secondary lithium **battery** cathodes)

IT Polyanilines

(composite granules contg. radical compd. active mass and electron conductors for secondary lithium **battery** cathodes)

IT 1898-66-4 **2370-18-5** 2564-83-2 7782-42-5, Graphite, uses 25233-30-1, Polyaniline

(composite granules contg. radical compd. active mass and electron conductors for secondary lithium **battery** cathodes)

L9 ANSWER 3 OF 53 HCAPLUS COPYRIGHT 2004 ACS on STN

2002:735453 Document No. 137:281824 Electrolyte solution and **battery**. Adachi, Momoe (Sony Corp., Japan). Jpn. Kokai Tokkyo Koho JP 2002280064 A2 20020927, 15 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 2001-76726 20010316.

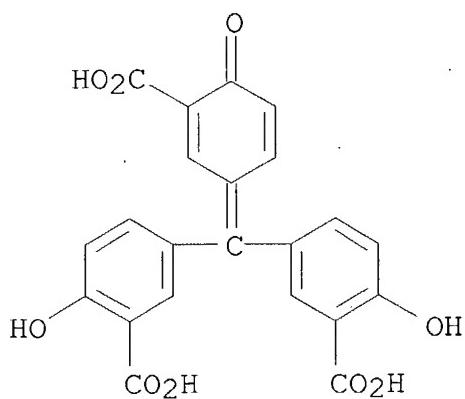
AB The electrolyte soln. contains a Al compd. and/or an Al adsorbing compd. Preferably, the Al compd. is Li aluminate, LiAlH₄, Al acetylacetone, and/or their derivs.; and the Al-adsorbing compd. is aluminon and/or its deriv. The electrolyte soln. also contains a Li salt and a solvent mixt. The mass of the Al and Al-adsorbing compds. are preferably 0.01-10 % of the solvent mixt. The **battery** has a light metal intercalating and depositing anode and the electrolyte soln.

IT **569-58-4**, Aluminon

(Li salt electrolyte solns. contg. Al compds. for secondary lithium **batteries**)

RN 569-58-4 HCAPLUS

CN Benzoic acid, 5-[(3-carboxy-4-hydroxyphenyl) (3-carboxy-4-oxo-2,5-cyclohexadien-1-ylidene)methyl]-2-hydroxy-, triammonium salt (9CI) (CA INDEX NAME)



● 3 NH₃

IC ICM H01M010-40
ICS H01M004-02

CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)

ST Li secondary **battery** electrolyte Al compd additive

IT **Battery** electrolytes

(Li salt electrolyte solns. contg. Al compds. for secondary lithium **batteries**)

IT 105-58-8, Diethyl carbonate 108-32-7, Propylene carbonate

569-58-4, Aluminon 13963-57-0, Aluminum acetylacetone

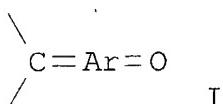
14283-07-9, Lithium tetrafluoroborate 16853-85-3, Lithium aluminum hydride 21324-40-3, Lithium hexafluorophosphate 37220-89-6, Lithium aluminate 90076-65-6, Lithium bis(trifluoromethanesulfonylimide)

(Li salt electrolyte solns. contg. Al compds. for secondary lithium **batteries**)

L9 ANSWER 4 OF 53 HCPLUS COPYRIGHT 2004 ACS on STN

2002:466582 Document No. 137:35544 High-energy density large-capacity stable **battery** having electrode layer containing cyclic conjugated carbonyl compound forming part of at least one electrode. Morioka, Yukiko; Satoh, Masaharu; Iwasa, Shigeyuki; Bannai, Yutaka; Nakahara, Kentaro (Japan). U.S. Pat. Appl. Publ. US 2002076610 A1 20020620, 20 pp. (English). CODEN: USXXCO. APPLICATION: US 2001-21362 20011219. PRIORITY: JP 2000-387933 20001220.

Inventor
GI



AB A pos. electrode, neg. electrode and electrolyte form in combination a **battery**, and at least one of the pos. and neg. electrodes has an electrode layer contg. cyclic conjugated carbonyl compd. expressed by general formula (I) where Ar is an org. group equiv. to substituted/non-substituted arom. compd. having carbon no. 5 to 14 from which two hydrogen atoms are eliminated; the **battery** is high in energy d., large in capacity, light and stable.

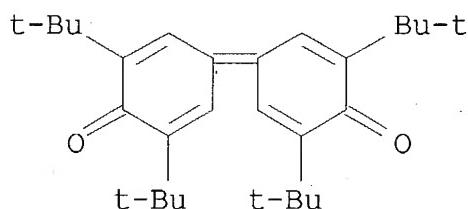
IT 2455-14-3 20357-51-1 65075-11-8

437605-75-9 437605-76-0 437605-77-1

(high-energy d. large-capacity stable **battery** having electrode layer contg. cyclic conjugated carbonyl compd. forming part of at least one electrode)

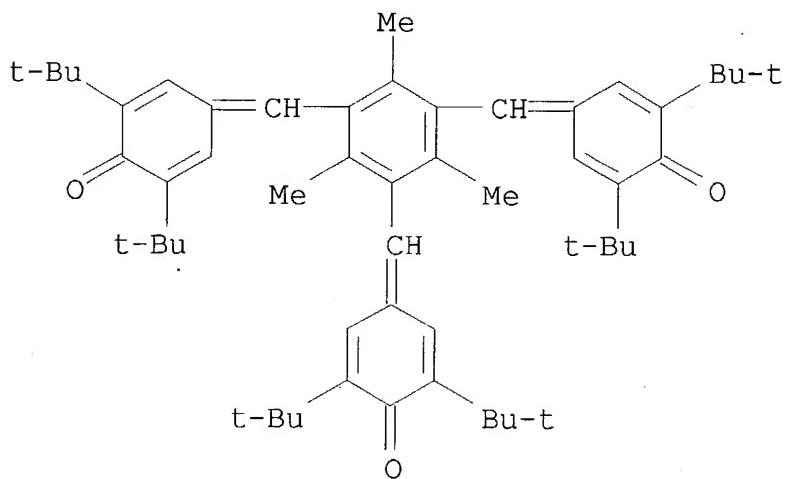
RN 2455-14-3 HCPLUS

CN 2,5-Cyclohexadien-1-one, 4-[3,5-bis(1,1-dimethylethyl)-4-oxo-2,5-cyclohexadien-1-ylidene]-2,6-bis(1,1-dimethylethyl)- (9CI) (CA INDEX NAME)



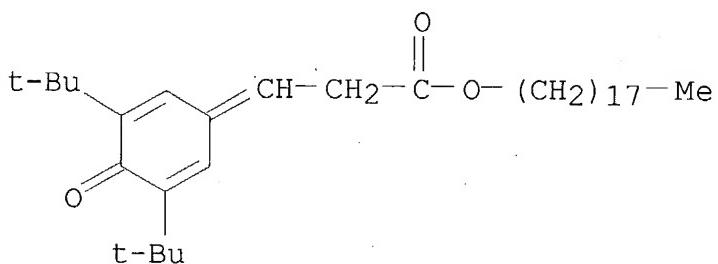
RN 20357-51-1 HCPLUS

CN 2,5-Cyclohexadien-1-one, 4,4',4'''-[(2,4,6-trimethyl-1,3,5-benzenetriyl)trimethylidyne]tris[2,6-bis(1,1-dimethylethyl)- (9CI) (CA INDEX NAME)



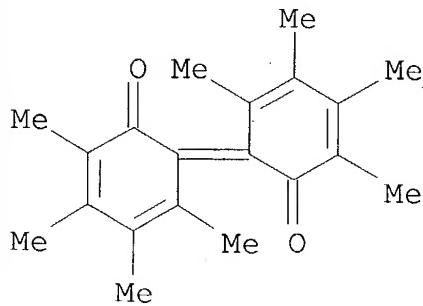
RN 65075-11-8 HCAPLUS

CN Propanoic acid, 3-[3,5-bis(1,1-dimethylethyl)-4-oxo-2,5-cyclohexadien-1-ylidene]-, octadecyl ester (9CI) (CA INDEX NAME)

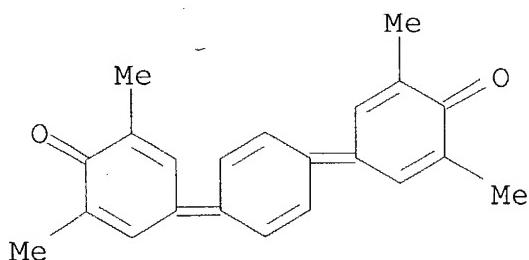


RN 437605-75-9 HCAPLUS

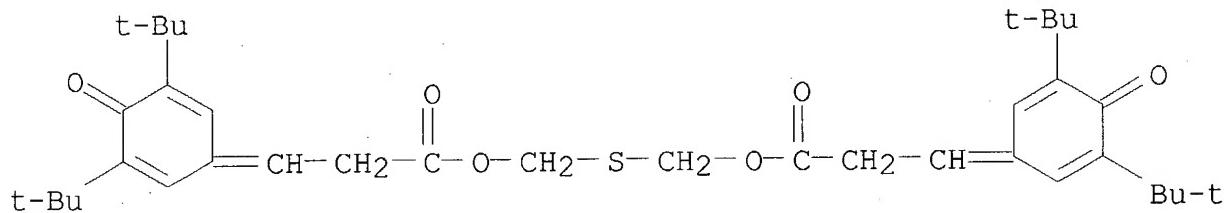
CN 2,4-Cyclohexadien-1-one, 2,3,4,5-tetramethyl-6-(2,3,4,5-tetramethyl-6-oxo-2,4-cyclohexadien-1-ylidene)- (9CI) (CA INDEX NAME)



RN 437605-76-0 HCPLUS
 CN 2,5-Cyclohexadien-1-one, 4,4'-(2,5-cyclohexadiene-1,4-diylidene)bis[2,6-dimethyl- (9CI) (CA INDEX NAME)



RN 437605-77-1 HCPLUS
 CN Propanoic acid, 3-[3,5-bis(1,1-dimethylethyl)-4-oxo-2,5-cyclohexadien-1-ylidene]-, thiobis(methylene) ester (9CI) (CA INDEX NAME)

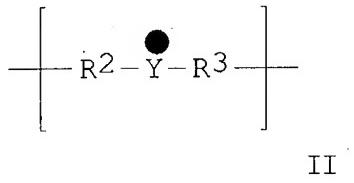
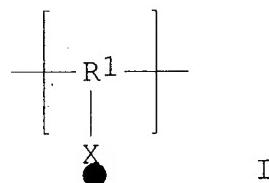


IC ICM H01M004-60
 NCL 429213000
 CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
 ST battery electrode cyclic conjugated carbonyl compd
 IT Battery electrodes
 (high-energy d. large-capacity stable battery having
 electrode layer contg. cyclic conjugated carbonyl compd. forming
 part of at least one electrode)
 IT Carbonyl compounds (organic), uses
 (high-energy d. large-capacity stable battery having
 electrode layer contg. cyclic conjugated carbonyl compd. forming
 part of at least one electrode)
 IT Secondary batteries
 (lithium, 1; high-energy d. large-capacity stable battery
 having electrode layer contg. cyclic conjugated carbonyl compd.
 forming part of at least one electrode)
 IT 2455-14-3 20357-51-1 65075-11-8
 437605-75-9 437605-76-0 437605-77-1
 (high-energy d. large-capacity stable battery having

electrode layer contg. cyclic conjugated carbonyl compd. forming part of at least one electrode)

L9 ANSWER 5 OF 53 HCAPLUS COPYRIGHT 2004 ACS on STN
 2002:447291 Document No. 137:35476 **Battery** with radical reaction. Sato, Masaharu; Iwasa, Shigeyuki; Morioka, Yukiko; Nakahara, Kentaro; Sakauchi, Hiroshi (NEC Corp., Japan). Jpn. Kokai Tokkyo Koho JP 2002170568 A2 20020614, 12 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 2000-367836 20001201.

GI



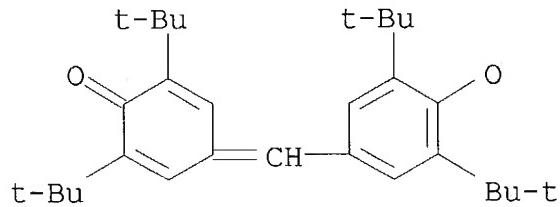
AB The **battery** has a radical reaction during **battery** charge or discharge, where the radical compd. formed by the reaction is stable. The radical compd. is I [R1 = (substituted) alkylene, alkenylene, or arylene group; X = O, nitroxyl, S, hydrazyl, or C radical] or II [R2 and R3 = (substituted) alkylene, alkenylene, or arylene groups; Y = nitroxyl, S, hydrazyl, or C radical]. The **battery** is preferably a secondary Li **battery** and the radical compd. is used for the **battery** cathode.

IT 2370-18-5 84307-41-5

(compns. of radical compds. for cathodes in secondary lithium batteries)

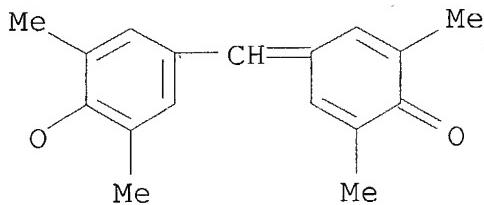
RN 2370-18-5 HCAPLUS

CN Phenoxy, 4-[(3,5-bis(1,1-dimethylethyl)-4-oxo-2,5-cyclohexadien-1-ylidene)methyl]-2,6-bis(1,1-dimethylethyl)- (9CI) (CA INDEX NAME)



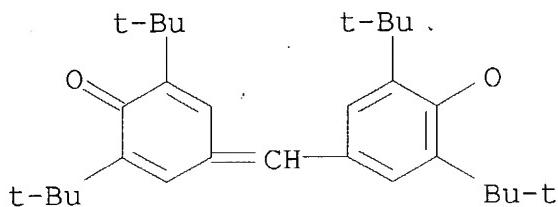
RN 84307-41-5 HCAPLUS

CN Phenoxy, 4-[(3,5-dimethyl-4-oxo-2,5-cyclohexadien-1-ylidene)methyl]-2,6-dimethyl- (9CI) (CA INDEX NAME)



- IC ICM H01M004-60
ICS H01M004-02; H01M010-40
CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
ST secondary lithium **battery** radical compd cathode
IT Radicals, uses
(compds.; compns. of radical compds. for cathodes in secondary lithium **batteries**)
IT **Battery** cathodes
(compns. of radical compds. for cathodes in secondary lithium **batteries**)
IT 2370-18-5 84307-41-5 437552-33-5
(compns. of radical compds. for cathodes in secondary lithium **batteries**)
IT 33406-97-2
(radical; compns. of radical compds. for cathodes in secondary lithium **batteries**)

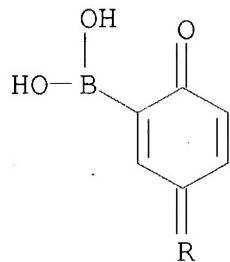
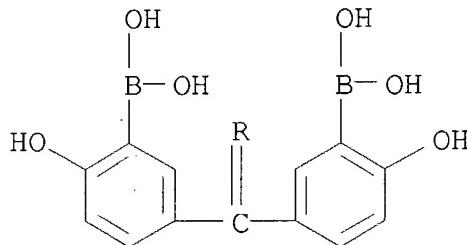
L9 ANSWER 6 OF 53 HCPLUS COPYRIGHT 2004 ACS on STN
2002:292170 Document No. 136:328124 Secondary **battery** and
manufacture thereof. Sato, Masaharu; Iwasa, Shigeyuki; Nakahara,
Kentaro; Morioka, Yukiko; Sakauchi, Hiroshi (Nec Corp., Japan).
Jpn. Kokai Tokkyo Koho JP 2002117852 A2 20020419, 10 pp.
(Japanese). CODEN: JKXXAF. APPLICATION: JP 2000-306708 20001005.
AB The invention relates to a secondary **battery** having high
energy d. and capacity per a unit mass. The secondary
battery comprises an active material contg. a spin-labeled
org. substance. The spin-labeling agent may include an oxy radical
compd., a hydrazyl radical compd., and a nitroxide radical compd.
The process involves a reaction of a spin-labeling agent with an
org. material.
IT 2370-18-5, Galvinoxyl
(spin-labeling agent for secondary **battery**)
RN 2370-18-5 HCPLUS
CN Phenoxy, 4-[3,5-bis(1,1-dimethylethyl)-4-oxo-2,5-cyclohexadien-1-
ylidene]methyl]-2,6-bis(1,1-dimethylethyl)- (9CI) (CA INDEX NAME)



IC ICM H01M004-60
 ICS H01M004-02; H01M004-04; H01M010-40
 CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
 Section cross-reference(s): 72
 ST spin labeling agent secondary **battery**
 IT Fluoropolymers, uses
 (secondary **battery** contg. spin-labeling agent)
 IT Secondary **batteries**
 .spin-labeling agent for secondary **battery**)
 IT 9011-14-7, Poly(methyl methacrylate) 24937-78-8D, Ethylene-vinyl
 acetate copolymer, chlorinated 24937-79-9, Kynar 301F
 25014-41-9, Polyacrylonitrile 30551-89-4, Polyallylamine
 (secondary **battery** contg. spin-labeling agent)
 IT 2082-79-3, ADK Stab AO-50 **2370-18-5**, Galvinoxyl
 2887-37-8, 3-Carboxypropyl 36768-62-4D, 4-Amino-2,2,6,6-
 tetramethylpiperidine, oxy-deriv.
 .spin-labeling agent for secondary **battery**)

L9 ANSWER 7 OF 53 HCPLUS COPYRIGHT 2004 ACS on STN
 2002:193351 Document No. 136:250257 Dye-adsorbed semiconductor,
 photoelectric conversion device using it, and solar cell using the
 device. Okubo, Kimihiko; Kita, Hiroshi (Konica Co., Japan). Jpn.
 Kokai Tokkyo Koho JP 2002075475 A2 (20020315, 34 pp. (Japanese).
 CODEN: JKXXAF. APPLICATION: JP 2000-257211 20000828.
 AB The semiconductor adsorbs a dye D[LB(ORa)n]k (D = dye residue; k =
 1-10; L = none, divalent linkage group; Ra = H, substituent; n = 2,
 3; B = anion if n = 3 to have counter cation). The photoelec.
 conversion device comprises an elec. conductive support laminated
 with a photosensitive layer contg. the above dye-adsorbed
 semiconductor. The solar cell has the above photoelec. conversion
 device, a charge-transfer layer, and a counter electrode. The solar
 cell shows improved durability and high photoelec. conversion
 efficiency.
 IT **403739-15-1P**
 (photoelec. conversion device having photosensitive layer contg.
 dye-adsorbed semiconductor for solar cell)
 RN 403739-15-1 HCPLUS
 CN Boronic acid, [[(3-borono-4-oxo-2,5-cyclohexadien-1-
 ylidene)methylene]bis(6-hydroxy-3,1-phenylene)]bis- (9CI) (CA INDEX)

NAME)



IC ICM H01M014-00
ICS H01L031-04

CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
Section cross-reference(s): 41, 76

ST methine dye adsorption semiconductor photoelec conversion device;
azomethine dye adsorption semiconductor solar cell; azo dye
adsorption semiconductor solar **battery**; triphenylmethane
dye adsorption semiconductor photoelec device; acridine dye
adsorption semiconductor solar cell

IT 403739-12-8P 403739-13-9P 403739-14-0P **403739-15-1P**
403739-16-2P 403739-17-3P 403845-21-6P 403845-28-3P
403847-96-1P

(photoelec. conversion device having photosensitive layer contg.
dye-adsorbed semiconductor for solar cell)

L9 ANSWER 8 OF 53 HCPLUS COPYRIGHT 2004 ACS on STN

2001:632012 Document No. 135:213455 Secondary **battery** using
a radical compound as active electrode material. Nakahara, Kentaro;
Satoh, Masaharu; Iwasa, Shigeyuki; Yageta, Hiroshi; Bannai, Yutaka;
Morioka, Yukiko; Hasegawa, Etsuo (NEC Corporation, Japan). Eur.
Pat. Appl. EP 1128453 A2 20010829, 71 pp. DESIGNATED STATES: R:
AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE,
SI, LT, LV, FI, RO. (English). CODEN: EPXXDW. APPLICATION: EP
2001-104289 20010222. PRIORITY: JP 2000-49705 20000225; JP
2000-242806 20000810; JP 2000-266922 20000904; JP 2000-368475

20001204.

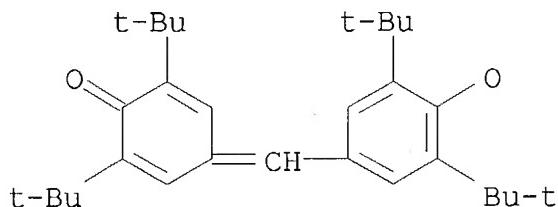
AB A radical compd. may be used as an active material for an anode layer to provide a novel stable secondary **battery** with a higher energy d. and a larger capacity. The radical compd. used has, for example, a spin concn. of 1021 spins/g or more.

IT 2370-18-5, Galvinoxyl

(secondary **battery** using radical compd. as active electrode material)

RN 2370-18-5 HCAPLUS

CN Phenoxy, 4-[[3,5-bis(1,1-dimethylethyl)-4-oxo-2,5-cyclohexadien-1-ylidene]methyl]-2,6-bis(1,1-dimethylethyl)- (9CI) (CA INDEX NAME)



IC ICM H01M004-60

ICS H01M010-40

CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
Section cross-reference(s): 38

ST **battery** electrode radical compd

IT Nitroxides

Radicals, uses

(compds.; secondary **battery** using radical compd. as active electrode material)

IT Heterocyclic compounds

(polymers, radical compds.; secondary **battery** using radical compd. as active electrode material)

IT Polyacetylenes, uses

(radical compd., substituted; secondary **battery** using radical compd. as active electrode material)

IT Polyolefins

(radical compds.; secondary **battery** using radical compd. as active electrode material)

IT Polymers, uses

(radicals; secondary **battery** using radical compd. as active electrode material)

IT **Battery** anodes

Battery cathodes

Secondary **batteries**

(secondary **battery** using radical compd. as active electrode material)

IT 96-49-1, Ethylene carbonate 108-32-7, Propylene carbonate

712-51-6 1898-66-4, Diphenylpicrylhydrazyl 2154-65-6
2370-18-5, Galvinoxyl 2564-83-2, 2,2,6,6-
 Tetramethylpiperidoxyl 7013-96-9 7429-90-5, Aluminum, uses
 7439-93-2, Lithium, uses 7440-50-8, Copper, uses 21324-40-3,
 Lithium hexafluorophosphate 25067-58-7D, Polyacetylene, radical
 compd., substituted 28389-17-5 28408-24-4 32555-49-0
 33406-97-2 33659-89-1 34272-83-8 35111-33-2 38987-16-5
 60693-39-2, Lithium 2,4,6-tri-tert-butylphenoxide 70816-59-0D,
 Tetrazine, radical compd., substituted 96638-49-2D,
 Polyphenylenevinylene, radical compd., substituted 133406-90-3
 140921-81-9, Nitronyl nitroxide radical 151677-94-0 171263-32-4
 357383-63-2

(secondary **battery** using radical compd. as active
 electrode material)

IT 7782-42-5, Graphite, uses 9011-17-0, Hexafluoropropylene-
 vinylidene fluoride copolymer

(secondary **battery** using radical compd. as active
 electrode material)

IT 109-99-9, Thf, uses
 (secondary **battery** using radical compd. as active
 electrode material)

L9 ANSWER 9 OF 53 HCPLUS COPYRIGHT 2004 ACS on STN

2001:348232 Document No. 135:118156 In vitro prediction of
 carcinogenicity using a bovine papillomavirus DNA-carrying
 C3H/10T1/2 cell line (T1). II: results from the testing of 100
 chemicals. Kowalski, L. A.; Assi, K. P.; Wee, R. K.-H.; Madden, Z.
 (Vera Genics, Vancouver, BC, V6G 2M9, Can.). Environmental and
 Molecular Mutagenesis, 37(3), 231-240 (English) 2001. CODEN:
 EMMUEG. ISSN: 0893-6692. Publisher: Wiley-Liss, Inc..

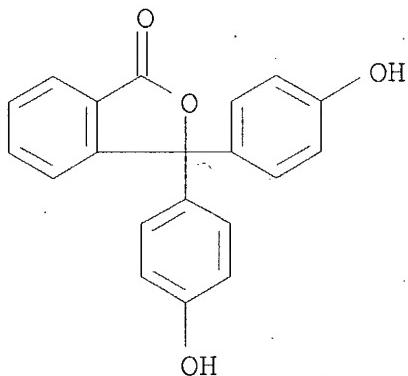
AB A new in vitro test for identifying carcinogens is evaluated against
 a testing database of 100 chems. including the following groups:
 steroids, antineoplastics, PCBs, dioxins, alkyl halides, arom.
 amines, nitrogen heterocycles, polyarom. hydrocarbons, mustards, and
 benzodioxoles. The assay uses focus formation in a stable,
 BPV-1-DNA-carrying C3H/10T1/2 mouse embryo fibroblast cell line
 (T1), which does not require transfection, infection with virus, or
 isolation of **primary cells** from animals. For
 this group of chems., the T1 assay correctly predicted the rodent
 carcinogenicity or noncarcinogenicity of 77% of the chems. for which
 carcinogenicity is reported. Based on published data the bacterial
 mutagenicity assay would have correctly predicted carcinogenicity or
 noncarcinogenicity of 53% of the chems. The Syrian hamster embryo
 test would have correctly predicted carcinogenicity or
 noncarcinogenicity of 61% of the chems. We also demonstrate
 dose-response relationships for two of the chems. We report the
 responses of T1 cells to the group of chems. used in the
 International Life Sciences Institute's program for screening of

alternative methods of predicting carcinogenicity.

IT 77-09-8, Phenolphthalein
 (in vitro prediction of carcinogenicity of 100 chems. using
 bovine papillomavirus DNA-carrying C3H/10T1/2 cell line (T1))

RN 77-09-8 HCPLUS

CN 1(3H)-Isobenzofuranone, 3,3-bis(4-hydroxyphenyl)- (9CI) (CA INDEX
 NAME)



CC 4-6 (Toxicology)

IT 50-18-0, Cyclophosphamide 50-28-2, 17.beta.-Estradiol, biological studies 50-78-2, Acetylsalicylic acid 50-81-7, L-Ascorbic acid, biological studies 52-86-8, Haloperidol 54-31-9, Furosemide 55-86-7, Nitrogen mustard 55-98-1, Busulfan 56-57-5, 4-Nitroquinoline-1-oxide 56-75-7, Chloramphenicol 57-83-0, Progesterone, biological studies 58-22-0, Testosterone 59-42-7, Phenylephrine 62-44-2, Phenacetin 64-86-8, Colchicine 67-20-9, Nitrofurantoin 67-56-1, Methanol, biological studies 69-53-4, Ampicillin 69-65-8, D-Mannitol 75-25-2, Bromoform 75-27-4, Bromodichloromethane 77-09-8, Phenolphthalein 78-42-2, Tris(2-ethylhexyl)phosphate 78-59-1, Isophorone 79-43-6, biological studies 85-01-8, Phenanthrene, biological studies 85-44-9, Phthalic anhydride 87-86-5, Pentachlorophenol 90-41-5, 2-Aminobiphenyl 90-94-8, 4,4'-Bis(dimethylamino)benzophenone 91-08-7, Toluene 2,6-diisocyanate 91-20-3, Naphthalene, biological studies 91-22-5, Quinoline, biological studies 91-64-5, Coumarin 94-36-0, Benzoyl peroxide, biological studies 94-59-7 98-00-0, 2-Furanmethanol 98-01-1, 2-Furaldehyde, biological studies 99-55-8, 2-Methyl-5-nitroaniline 99-57-0, 2-Amino-4-nitrophenol 101-05-3, Dycrene 103-33-3, Azobenzene 103-90-2, Acetaminophen 105-60-2, Caprolactam, biological studies 106-44-5, p-Cresol, biological studies 106-92-3, Allyl glycidyl ether 108-30-5, Succinic anhydride, biological studies 108-46-3, Resorcinol, biological studies 108-78-1, Melamine, biological studies 110-86-1, Pyridine, biological studies 115-28-6, Chlorendic acid

115-96-8, Tris(2-chloroethyl)phosphate 117-39-5, Quercetin
 120-71-8, p-Cresidine 120-83-2, 2,4-Dichlorophenol 121-14-2,
 2,4-Dinitrotoluene 121-88-0, 2-Amino-5-nitrophenol 123-31-9,
 Hydroquinone, biological studies 125-33-7, Primidone 127-69-5,
 Sulfisoxazole 135-20-6, Cupferron 137-30-4, Ziram 148-24-3,
 8-Hydroxyquinoline, biological studies 148-79-8, Thiabendazole
 148-82-3, Melphalan 149-30-4, 2-Mercaptobenzothiazole 298-81-7,
 8-Methoxysoralen 305-03-3, Chlorambucil 396-01-0, Triamterene
 512-56-1, Trimethylphosphate 513-37-1, 1-Chloro-2-methylpropene
 542-88-1, Bischloromethyl ether 556-52-5, Glycidol 569-64-2,
 Malachite green 584-84-9, Toluene 2,4-diisocyanate 637-07-0,
 Clofibrate 684-93-5, N-Nitroso-N-methylurea 865-21-4,
 Vinblastine 924-42-5 1156-19-0, Tolazamide 1313-27-5,
 Molybdenum trioxide, biological studies 1313-99-1, Nickel(II)
 oxide, biological studies 1746-01-6, 2,3,7,8-Tetrachlorodibenzo-p-
 dioxin 5989-27-5, D-Limonene 6373-74-6, C.I. Acid Orange 3
 7447-39-4, Copper(II) chloride, biological studies 7487-94-7,
 Mercuric chloride, biological studies 7681-49-4, Sodium fluoride,
 biological studies 7718-54-9, Nickel chloride, biological studies
 7787-47-5, Beryllium chloride 11056-06-7, Bleomycin 11097-69-1,
 PCB 1254 17924-92-4, Zearalenone 27896-84-0 55268-74-1,
 Praziquantel 56996-93-1, Sudan black 57998-68-2, Diaziquone
 59865-13-3, Cyclosporin A 66575-29-9, Forskolin 67526-95-8,
 Thapsigargin

(in vitro prediction of carcinogenicity of 100 chems. using
 bovine papillomavirus DNA-carrying C3H/10T1/2 cell line (T1))

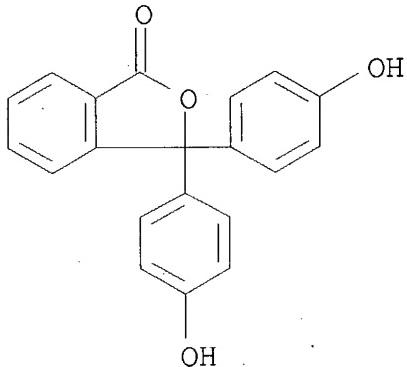
L9 ANSWER 10 OF 53 HCAPLUS COPYRIGHT 2004 ACS on STN
 2001:269871 Document No. 134:355412 Study on phenolphthalein solution
 to detect the sealing characteristics of alkaline cell. Song,
 Qing-shan (Office in the Name of Troops in the State-Run Factory
 No.755, Henan, 453069, Peop. Rep. China). Dianchi, 31(1), 23-24
 (Chinese) 2001. CODEN: DNCHEP. ISSN: 1001-1579. Publisher:
 Dianchi Zazhishe.

AB The causes of producing error results were analyzed at detecting
 alk. cell sealing characteristics, using phenolphthalein soln. The
 results of expt. indicated that condition of environment humidity
 were higher, water was electrolyzed on the sealing position, the
 possibility of producing error results could increase. In order to
 increase reliability using phenolphthalein soln. to detect alk. cell
 sealing characteristics, the water in the alc. was decreased and
 environment humidity was requisite.

IT 77-09-8, Phenolphthalein
 (phenolphthalein soln. to detect sealing characteristics of alk.
 cell)

RN 77-09-8 HCAPLUS

CN 1 (3H)-Isobenzofuranone, 3,3-bis(4-hydroxyphenyl)- (9CI) (CA INDEX
 NAME)



CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)

ST phenolphthalein detection sealing characteristic alk **battery**

IT Primary **batteries**

Sealing

Secondary **batteries**

(phenolphthalein soln. to detect sealing characteristics of alk. cell)

IT 77-09-8, Phenolphthalein

(phenolphthalein soln. to detect sealing characteristics of alk. cell)

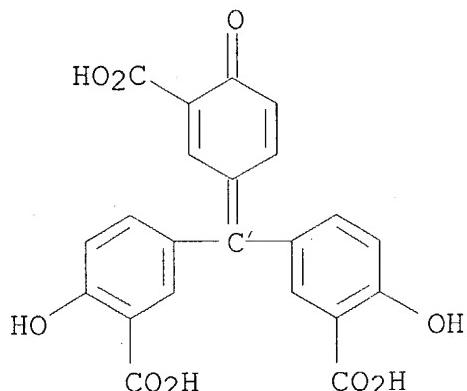
L9 ANSWER 11 OF 53 HCAPLUS COPYRIGHT 2004 ACS on STN

2000:900566 Document No. 134:58752 Synthesis and stabilization of .alpha.-polymorph of aluminum hydride for use in rocket propellants. Petrie, Mark A.; Bottaro, Jeffrey C.; Penwell, Paul E.; Bomberger, David C.; Schmitt, Robert J. (SRI International, USA). PCT Int. Appl. WO 2000076913 A1 20001221, 24 pp. DESIGNATED STATES: W: CA, JP; RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE. (English). CODEN: PIXXD2. APPLICATION: WO 2000-US16137 20000612. PRIORITY: US 1999-334359 19990616.

AB .alpha.-AlH₃ (as the .alpha. polymorph) is prep'd. by: (1) reacting an alkali metal hydride with AlCl₃ in di-Et ether soln. to form an initial AlH₃ product, (2) filtering off the alkali metal chloride byproduct, (3) adding excess toluene to the filtrate from step (2), (4) heating and distg. the di-Et ether-toluene soln. to reduce the amt. of di-Et ether, until a ppt. is formed, (5) isolating the ppt., (6) adding the ppt. to an acidic soln. to dissolve and remove other impurities. and (7) sepg. .alpha.-AlH₃ from the acidic soln. The acidic soln. in step (6) contains a stabilizing agent for .alpha.-AlH₃ (e.g., aluminon, 8-hydroxyquinoline, catechol, or an electron donor or electron acceptor). AlH₃ has application as an energetic component in rocket propellants, a reducing agent in org. synthesis, a hydride donor for polymn. catalysts, as a hydrogen

storage material (esp. in an alk. **battery**), and a hydrogen source for fuel cells.

- IT 569-58-4, Aluminon
 (stabilizer; synthesis and stabilization of .alpha.-polymorph of aluminum hydride for use in rocket propellants)
- RN 569-58-4 HCPLUS
- CN Benzoic acid, 5-[(3-carboxy-4-hydroxyphenyl)(3-carboxy-4-oxo-2,5-cyclohexadien-1-ylidene)methyl]-2-hydroxy-, triammonium salt (9CI)
 (CA INDEX NAME)



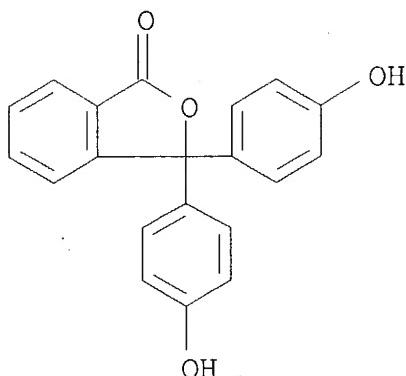
● 3 NH₃

- IC ICM C01B006-06
- CC 50-1 (Propellants and Explosives)
 Section cross-reference(s): 21, 35, 49, 52
- IT Fuel cells
 (synthesis and stabilization of .alpha.-polymorph of aluminum hydride as hydrogen source for fuel cells and alkali storage **batteries**)
- IT 118-75-2, Tetrachlorobenzoquinone, uses 120-80-9, Catechol, uses 122-39-4, Diphenylamine, uses 148-24-3, 8-Hydroxyquinoline, uses 569-58-4, Aluminon 670-54-2, Tetracyanoethylene, uses 996-70-3, Tetrakis(dimethylamino)ethylene 1518-16-7 31366-25-3, Tetrathiafulvalene
 (stabilizer; synthesis and stabilization of .alpha.-polymorph of aluminum hydride for use in rocket propellants)

L9 ANSWER 12 OF 53 HCPLUS COPYRIGHT 2004 ACS on STN
 2000:547392 Document No. 133:122813 Synthesis of amorphous carbon electrode material for **battery** use. Denton, Frank R., III; Smith, Daryl R. (Motorola, Inc., USA). U.S. US 6099990 A

20000808, 22 pp. (English). CODEN: USXXAM. APPLICATION: US
1998-48634 19980326.

- AB A method of fabricating a microscopically dense amorphous carbon material for use as an electrode in an **electrochem**. **cell** includes the steps of mixing a lignin material with a matrix-enhancing salt (Na₂SO₄), and subsequently heating the mixt.
- IT 77-09-8, Phenolphthalein
(synthesis of amorphous carbon electrode material for
battery use)
- RN 77-09-8 HCPLUS
- CN 1 (3H)-Isobenzofuranone, 3,3-bis(4-hydroxyphenyl)- (9CI) (CA INDEX
NAME)



- IC ICM H01M004-58
- NCL 429231800
- CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
- ST **battery** electrode carbon synthesis lignin salt mixt
heating
- IT Carbonaceous materials (technological products)
(synthesis of amorphous carbon electrode material for
battery use)
- IT 7440-44-0P, Carbon, uses
(synthesis of amorphous carbon electrode material for
battery use)
- IT 2695-37-6, Sodium 4-styrenesulfonate
(synthesis of amorphous carbon electrode material for
battery use)
- IT 7446-81-3, Sodium Acrylate
(synthesis of amorphous carbon electrode material for
battery use)
- IT 77-09-8, Phenolphthalein 82-45-1, 1-Aminoanthraquinone
2321-07-5, Fluorescein 2550-73-4, Pyromellitic diimide
7757-82-6, Sodium sulfate, reactions 8068-03-9, Lignin, organosolv
8068-05-1, Indulin at 9005-53-2, Lignin, reactions

(synthesis of amorphous carbon electrode material for
battery use)

IT 78-67-1, Azobisisobutyronitrile
(synthesis of amorphous carbon electrode material for
battery use)

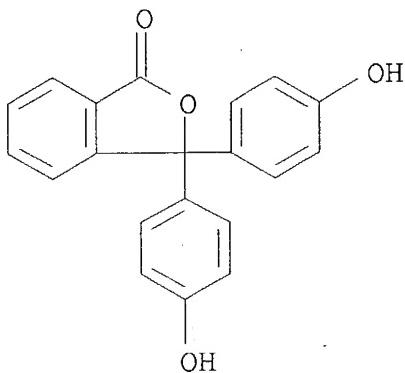
L9 ANSWER 13 OF 53 HCAPLUS COPYRIGHT 2004 ACS on STN
2000:51735 Document No. 132:218070 Prediction of rodent
carcinogenicity utilizing a **battery** of in vitro and in
vivo genotoxicity tests. Kim, Byung Soo; Margolin, Barry H.
(Department of Applied Statistics, Yonsei University, Seoul,
120-749, S. Korea). Environmental and Molecular Mutagenesis, 34(4),
297-304 (English) 1999. CODEN: EMMUEG. ISSN: 0893-6692.
Publisher: Wiley-Liss, Inc..

AB The primary purpose of this study is to investigate the degree to
which we the prediction of rodent carcinogenicity (CA) can be
improved by combining results from an in vitro and two in vivo
genotoxicity tests. The authors used the Ames Salmonella assay
(SAL) for the in vitro test and the micronucleus assay (MNC) and
chromosome aberration assay (ABS) in mouse bone marrow cells for the
two in vivo tests. The authors collected complete assay data for 82
chems. (55 carcinogens and 27 noncarcinogens) from the NTP data base
and the IARC monograph series. These results indicate that: (1)
only SAL affects the predictivity of CA, (2) MNC has a strong
assocn. with ABS, and (3) SAL predicts ABS. It has been known for
some time that once the SAL assay result is available for
prediction, other in vitro mutation tests provide little addnl.
information for predicting CA. This study indicates that the same
conclusion holds for CA, SAL, MNC, and ABS.

IT 77-09-8, Phenolphthalein
(carcinogen carcinogenicity in rodent prediction by utilizing a
battery of in vitro and in vivo genotoxicity tests)

RN 77-09-8 HCAPLUS

CN 1(3H)-Isobenzofuranone, 3,3-bis(4-hydroxyphenyl)- (9CI) (CA INDEX
NAME)



- CC 4-1 (Toxicology)
 Section cross-reference(s): 14
- IT Chromosome aberrations
 (assay; carcinogen carcinogenicity in rodent prediction by utilizing a **battery** of in vitro and in vivo genotoxicity tests)
- IT Bioassay
 Carcinogens
 Genotoxicity
 Neoplasm
 Rodent
 (carcinogen carcinogenicity in rodent prediction by utilizing a **battery** of in vitro and in vivo genotoxicity tests)
- IT Bone marrow
 (cells, assay; carcinogen carcinogenicity in rodent prediction by utilizing a **battery** of in vitro and in vivo genotoxicity tests)
- IT Cell nucleus
 (micronucleus, assay; carcinogen carcinogenicity in rodent prediction by utilizing a **battery** of in vitro and in vivo genotoxicity tests)
- IT 50-07-7, Mitomycin C 50-18-0, Cyclophosphamide 50-55-5, Reserpine 50-81-7, L-Ascorbic acid, biological studies 57-06-7, Allyl isothiocyanate 57-41-0, 5,5-Diphenylhydantoin 57-97-6, 7,12-Dimethylbenz[a]anthracene 58-55-9, Theophylline, biological studies 62-73-7, Dichlorvos 67-66-3, Chloroform, biological studies 69-65-8, D-Mannitol 71-43-2, Benzene, biological studies 75-25-2, Bromoform 75-56-9, 1,2-Propylene oxide, biological studies 76-01-7, Pentachloroethane 77-09-8, Phenolphthalein 78-42-2, Tris(2-ethylhexyl)phosphate 78-79-5, Isoprene, biological studies 78-84-2, Isobutyraldehyde 79-01-6, Trichloroethylene, biological studies 79-06-1, Acrylamide, biological studies 85-68-7, Butyl benzyl phthalate 87-29-6, Cinnamyl anthranilate 89-78-1 92-52-4D, Biphenyl, bromo derivs.

95-50-1, 1,2-Dichlorobenzene 95-83-0, 4-Chloro-o-phenylenediamine
96-12-8, 1,2-Dibromo-3-chloropropane 97-53-0, Eugenol 101-80-4,
4,4'-Oxydianiline 101-90-6, Diglycidyl resorcinol ether
103-23-1, Di(2-ethylhexyl) adipate 105-60-2, Caprolactam,
biological studies 105-87-3, Geranyl acetate 106-46-7,
1,4-Dichlorobenzene 106-93-4, 1,2-Dibromoethane 106-99-0,
1,3-Butadiene, biological studies 107-07-3, 2-Chloroethanol,
biological studies 108-78-1, Melamine, biological studies
108-90-7, Chlorobenzene, biological studies 108-95-2, Phenol,
biological studies 109-99-9, Tetrahydrofuran, biological studies
110-86-1, Pyridine, biological studies 119-53-9, Benzoin
120-61-6, Dimethylterephthalate 121-79-9, Propyl gallate
124-48-1, Chlorodibromomethane 126-99-8, Chloroprene 127-18-4,
Tetrachloroethylene, biological studies 127-69-5, Sulfisoxazole
131-17-9, Diallyl phthalate 140-11-4, Benzyl acetate 148-24-3,
8-Hydroxyquinoline, biological studies 148-82-3, Melphalan
150-68-5, Monuron 298-81-7, 8-Methoxysoralen 484-20-8,
5-Methoxysoralen 531-85-1 542-75-6, 1,3-Dichloropropene
563-47-3, 3-Chloro-2-methylpropene 599-79-1,
Salicylazosulfapyridine 609-20-1, 2,6-Dichloro-p-phenylenediamine
630-20-6, 1,1,1,2-Tetrachloroethane 842-07-9, C.I. Solvent yellow
14 868-85-9, Dimethyl hydrogen phosphite 1314-87-0, Lead sulfide
1936-15-8, C.I. Acid orange 10 1948-33-0 2185-92-4,
2-Biphenylamine hydrochloride 2432-99-7, 11-Aminoundecanoic acid
2783-94-0 2832-40-8, C.I. Disperse yellow 3 3567-69-9, C.I. Acid
red 14 6959-47-3, 2-Chloromethyl pyridine hydrochloride
6959-48-4, 3-Chloromethyl pyridine hydrochloride 7446-34-6,
Selenium sulfide 7681-49-4, Sodium fluoride, biological studies
7772-99-8, Stannous chloride, biological studies 13463-67-7,
Titanium dioxide, biological studies 13552-44-8 15481-70-6
21739-91-3, Cytembena

(carcinogen carcinogenicity in rodent prediction by utilizing a
battery of in vitro and in vivo genotoxicity tests)

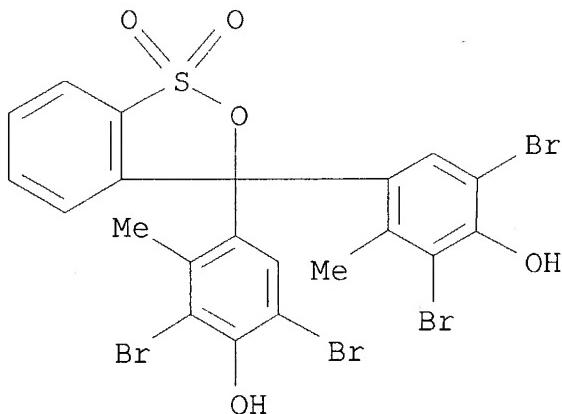
L9 ANSWER 14 OF 53 HCAPLUS COPYRIGHT 2004 ACS on STN
1999:680569 Document No. 131:274175 Synergizers for lead-acid
battery electrolyte and their manufacture. Qin, Jing; Mou,
Youwei (Shenyang Zhongxing Enterprise Group Corp., Peop. Rep. China;
Haina Energy-Saving New Product Manufacture Institute, Shenyang).
Faming Zhuanli Shenqing Gongkai Shuomingshu CN 1126887 A 19960717,
10 pp. (Chinese). CODEN: CNXXEV. APPLICATION: CN 1995-110187
19950420.

AB The synergizers contain ZnSO₄·7H₂O 25-40, CdSO₄ 10- 16, MgSO₄·7H₂O
0.8-7, PbSO₄ 0.15-0.4, CuSO₄·5H₂O 0.2-0.8, PdCl₂ 0.01-0.04,
bromocresol green 0.01-0.03%, and water. The synergizers are prep'd.
by reacting Cd, HNO₃, and H₂O₂ to form Cd(NO₃)₂, pptg. Cd(OH)₂ from
the nitrate by using NH₄OH, reacting the Cd(OH)₂ with H₂SO₄ to
obtain CdSO₄, and mixing the CdSO₄ with other components.

IT 76-60-8, Bromcresol green
 (compns. and manuf. of synergizers for lead-acid **battery**
 electrolytes)

RN 76-60-8 HCAPLUS

CN Phenol, 4,4'-(1,1-dioxido-3H-2,1-benzoxathiol-3-ylidene)bis[2,6-
 dibromo-3-methyl- (9CI) (CA INDEX NAME)



IC ICM H01M010-08

CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)

ST lead acid **battery** electrolyte synergizer manuf; cadmium sulfate lead **battery** electrolyte synergizer; zinc sulfate lead **battery** electrolyte synergizer; magnesium sulfate lead **battery** electrolyte synergizer; lead sulfate lead **battery** electrolyte synergizer; copper sulfate lead **battery** electrolyte synergizer; palladium chloride lead **battery** electrolyte synergizer; bromocresol green lead **battery** electrolyte synergizer

IT **Battery** electrolytes
 (compns. and manuf. of synergizers for lead-acid **battery** electrolytes)

IT 7664-93-9, Sulfuric acid, uses
 (compns. and manuf. of synergizers for lead-acid **battery** electrolytes)

IT 76-60-8, Bromcresol green 7446-14-2, Lead sulfate 7487-88-9, Magnesium sulfate, uses 7647-10-1, Palladium chloride 7733-02-0, Zinc sulfate 7758-98-7, Copper sulfate, uses
 (compns. and manuf. of synergizers for lead-acid **battery** electrolytes)

IT 10124-36-4P, Cadmium sulfate
 (manuf. of cadmium sulfate for synergizers in lead-acid **battery** electrolytes)

1999:637659 Document No. 132:3174 Electrospray ionization and atmospheric pressure ionization mass spectrometry of stable organic radicals. Metzger, Jurgen O.; Griep-Raming, Jens (Department of Chemistry, Carl von Ossietzky University Oldenburg, Oldenburg, D-26129, Germany). European Mass Spectrometry, 5(3), 157-163 (English) 1999. CODEN: EMSPFW. ISSN: 1356-1049. Publisher: IM Publications.

GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

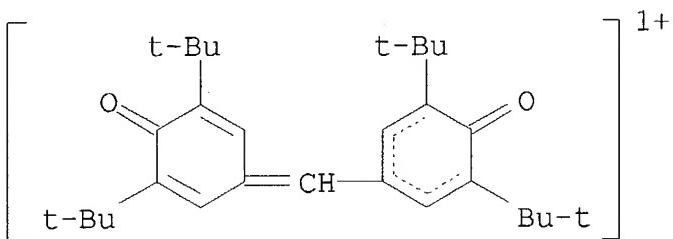
AB The ionization behavior of stable radicals (I,II,III,IV,V,VI,VII,VIII) was studied under electrospray ionization (ESI) and atm. pressure ionization (APCI) conditions. With APCI, using methanol + water as the solvent, most radicals were protonated to give the radical cation $[M + 1]^+$.cntdot., whereas TEMPO (V) was detected as the M^+ ion and galvinoxyl (I) gave the $[M + 2]^+$ ion. Using benzene as the solvent, all radicals were efficiently oxidized to give M^+ as the base peak. Under ESI conditions using methanol + water with 1% acetic acid, stable radicals (V-VII) gave $[M + 1]^+$.cntdot., $(2-4)M^+$, whereas (I) and (VIII) showed the $[M + 2]^+$ ion as the base peak. Using the ESI source as a controlled-current **electrolytic cell**, radicals (II-VIII) were efficiently oxidized to give M^+ ions. Radical (I) was detected as the $[M + 2]^+$ ion. Detection limits for the radicals were between 3 .times. 10^{-9} mol L⁻¹ and 5 .times. 10^{-7} mol L⁻¹ using APCI or ESI in the full-scan mode. In most cases detection limits were lower using the tandem mass spectrometry (MS/MS) full-scan mode.

IT 51860-08-3 250718-16-2

(electrospray ionization and atm. pressure ionization mass spectrometry of stable org. radicals)

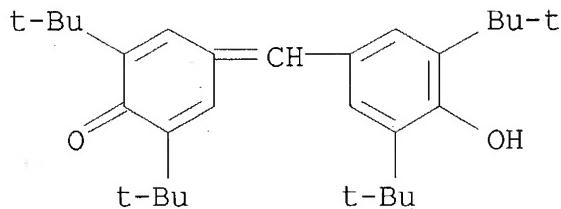
RN 51860-08-3 HCPLUS

CN Cyclohexadienylium, 3-[[3,5-bis(1,1-dimethylethyl)-4-oxo-2,5-cyclohexadien-1-ylidene]methyl]-1,5-bis(1,1-dimethylethyl)-6-oxo-(9CI) (CA INDEX NAME)



RN 250718-16-2 HCPLUS

CN 2,5-Cyclohexadien-1-one, 4-[[3,5-bis(1,1-dimethylethyl)-4-hydroxyphenyl)methylene]-2,6-bis(1,1-dimethylethyl)-, radical ion(1+) (9CI) (CA INDEX NAME)

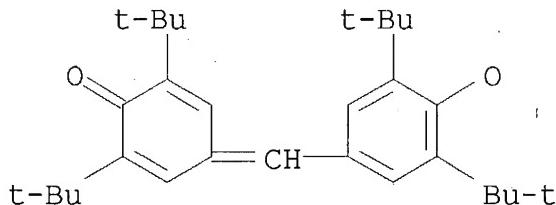


IT 2370-18-5, Galvinoxyl

(electrospray ionization and atm. pressure ionization mass spectrometry of stable org. radicals)

RN 2370-18-5 HCPLUS

CN Phenoxy, 4-[[3,5-bis(1,1-dimethylethyl)-4-oxo-2,5-cyclohexadien-1-ylidene)methyl]-2,6-bis(1,1-dimethylethyl)- (9CI) (CA INDEX NAME)



CC 22-8 (Physical Organic Chemistry)

| | | | | |
|--------------------|-------------|-------------|-------------|-------------------|
| IT 26973-98-8 | 45842-10-2 | 45985-24-8 | 45985-26-0 | 51860-08-3 |
| 61515-32-0 | 72137-80-5 | 88199-87-5 | 88399-86-4 | 88414-86-2 |
| 91360-27-9 | 110880-85-8 | 136312-83-9 | 147506-92-1 | 192767-74-1 |
| 250718-16-2 | 250718-17-3 | 250718-19-5 | 250718-20-8 | |
| 250718-21-9 | 250718-22-0 | | | |

(electrospray ionization and atm. pressure ionization mass spectrometry of stable org. radicals)

IT 1898-66-4, DPPH 2152-02-5, BDPA 2154-65-6, 1,3,5-Triphenylverdazyl 2226-96-2 2370-18-5, Galvinoxyl 2564-83-2, TEMPO 2896-70-0 14691-88-4
(electrospray ionization and atm. pressure ionization mass spectrometry of stable org. radicals)

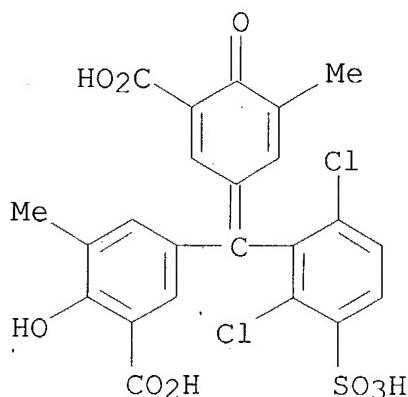
L9 ANSWER 16 OF 53 HCAPLUS COPYRIGHT 2004 ACS on STN
1999:405240 Document No. 131:164752 Microanalysis of Al in Pb-Sn-Ca-Al alloy. Liu, Haifeng; Cao, Ying; Chen, Changping (Wuhan Institute of Material Protection, Wuhan, 430030, Peop. Rep. China). Cailiao Baohu, 32(5), 17-18 (Chinese) 1999. CODEN: CAIBE3. ISSN: 1001-1560. Publisher: Cailiao Baohu Zazhishe.

AB The alloy sample is dissolved in hot HNO₃ followed by adding HClO₄, heating to fume, and pptg. Pb with Na₂SO₄. Al content in Pb-Sn-Ca-Al alloy used in **battery** manuf. was detd. by spectrophotometry using chrome azurol S in pH 5.1 soln. at 546.2 nm. Impurities (such as Cu, Fe, etc.) were masked by Zn-EDTA.

IT 1667-99-8, Chrome azurol S
(microanal. of Al in Pb-Sn-Ca-Al alloy by spectrophotometry)

RN 1667-99-8 HCAPLUS

CN Benzoic acid, 5-[(3-carboxy-5-methyl-4-oxo-2,5-cyclohexadien-1-ylidene)(2,6-dichloro-3-sulfophenyl)methyl]-2-hydroxy-3-methyl-, trisodium salt (9CI) (CA INDEX NAME)



●3 Na

CC 79-6 (Inorganic Analytical Chemistry)
Section cross-reference(s): 56

IT 1667-99-8, Chrome azurol S
(microanal. of Al in Pb-Sn-Ca-Al alloy by spectrophotometry)

L9 ANSWER 17 OF 53 HCPLUS COPYRIGHT 2004 ACS on STN
1998:311625 Document No. 129:90304 Pretreatment with intraventricular aurintricarboxylic acid decreases infarct size by inhibiting apoptosis following transient global ischemia in gerbils.

Rosenbaum, Daniel M.; D'amore, Jason; Llena, Josefina; Rybak, Susan; Balkany, Adam; Kessler, John A. (Department of Neurology, Albert Einstein College of Medicine, Bronx, NY, 10461, USA). Annals of Neurology, 43(5), 654-660 (English) 1998. CODEN: ANNED3. ISSN: 0364-5134. Publisher: Lippincott-Raven Publishers.

AB The goal of this study was to det. whether aurintricarboxylic acid (ATA), an endonuclease inhibitor known to inhibit apoptosis, could ameliorate cell damage in a gerbil model of transient ischemia. Transient ischemia was induced in gerbils by bilateral carotid artery occlusion for a period of 5 min. Four micrograms of ATA was administered intraventricularly 1 h before ischemia, and the brains were assessed histol. 1 wk later to quantitate cell loss in the vulnerable CA-1 subsector of the hippocampus. In a sep. set of expts., 4 .mu.g of ATA was administered intraventricularly 1 h before ischemia and the brains were assessed for evidence of DNA fragmentation by the TUNEL method. There was only a 16% cell loss compared with nonischemic controls in animals pretreated with ATA that was significantly less ($p < 0.05$) than the 48% cell loss in animals pretreated with saline alone. TUNEL-pos. cells were first evident at 3 days and were still present at 7 days subsequent to ischemia. Maximal staining occurred at 4 days. Pretreatment with ATA virtually eliminated TUNEL staining at 4 days. These results support the hypothesis that the delayed **cell** death **secondary** to transient ischemia is, in part, apoptotic.

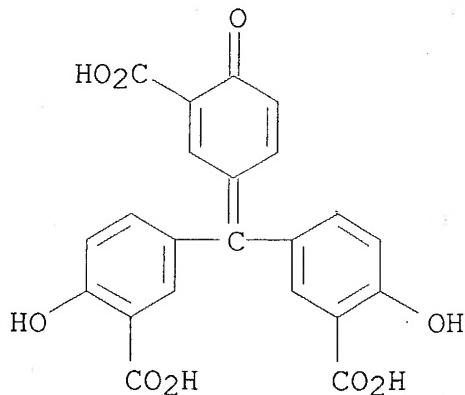
Furthermore, ATA afforded significant neuronal protection and prevented DNA fragmentation.

IT 4431-00-9, Aurintricarboxylic acid

(effect of aurintricarboxylic acid pretreatment on infarct size by inhibiting apoptosis-following transient global ischemia)

RN 4431-00-9 HCPLUS

CN Benzoic acid, 5-[(3-carboxy-4-hydroxyphenyl)(3-carboxy-4-oxo-2,5-cyclohexadien-1-ylidene)methyl]-2-hydroxy- (9CI) (CA INDEX NAME)



CC 1-11 (Pharmacology)

IT 4431-00-9, Aurintricarboxylic acid

(effect of aurintricarboxylic acid pretreatment on infarct size
by inhibiting apoptosis-following transient global ischemia)

L9 ANSWER 18 OF 53 HCPLUS COPYRIGHT 2004 ACS on STN

1998:165280 Document No. 128:276918 Action spectra of the photopotential generation for pigment and dye solutions in nematic liquid crystals located in the **electrochemical cell**. Naser, N. S.; Planner, A.; Frackowiak, D. (60-696, Pol.). Journal of Photochemistry and Photobiology, A: Chemistry, 113(3), 279-282 (English) 1998. CODEN: JPPCEJ. ISSN: 1010-6030. Publisher: Elsevier Science S.A..

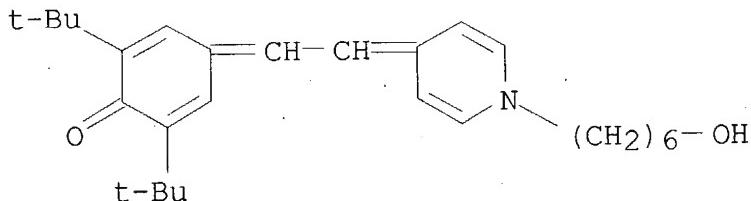
AB The method of measurements of the action spectra of photopotential generation using a modulated acting light beam was elaborated and applied to two systems: the solns. of stilbazolium merocyanines and to the mixt. of chlorophyll a and luteine. Both types of samples were dissolved in nematic liq. crystal and located either between two semiconducting electrodes, or between a transparent gold electrode and a semiconducting electrode. By changing the frequency of light modulation or the phase shift between a modulated light beam and a measured photopotential signal, information about the kinetics of photopotential generation is obtained. The free base and protonated merocyanine forms exhibit different kinetics of potential generation. The amplitude of the photopotential of the chlorophyll and luteine mixt. is higher than the sum of the amplitudes of the photopotential of these pigments located in sepd. cells. In a cell with two semiconducting electrodes, the light gradient (e.g., different illumination of front and back electrodes due to light absorption) plays an important role in photopotential generation.

IT 91178-50-6 98151-73-6

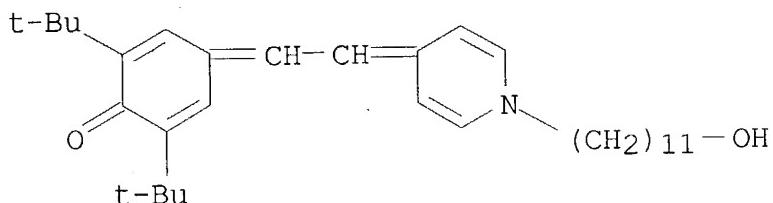
(action spectra of photopotential generation for pigment and dye

solns. in nematic liq. crystals located in **electrochem.**
cell)

RN 91178-50-6 HCPLUS
CN 2,5-Cyclohexadien-1-one, 2,6-bis(1,1-dimethylethyl)-4-[[1-(6-hydroxyhexyl)-4(1H)-pyridinylidene]ethylidene]- (9CI) (CA INDEX NAME)



RN 98151-73-6 HCPLUS
CN 2,5-Cyclohexadien-1-one, 2,6-bis(1,1-dimethylethyl)-4-[[1-(11-hydroxyundecyl)-4(1H)-pyridinylidene]ethylidene]- (9CI) (CA INDEX NAME)



CC 74-1 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

Section cross-reference(s): 72

ST photopotential dye soln nematic liq crystal; light conversion elec energy; **electrochem** cell photopotential dye liq crystal; stilbazolium merocyanine photopotential generation; chlorophyll luteine photopotential generation

IT **Electrochemical cells**

Photovoltage

(action spectra of photopotential generation for pigment and dye solns. in nematic liq. crystals located in **electrochem.** **cell)**

IT Solar energy

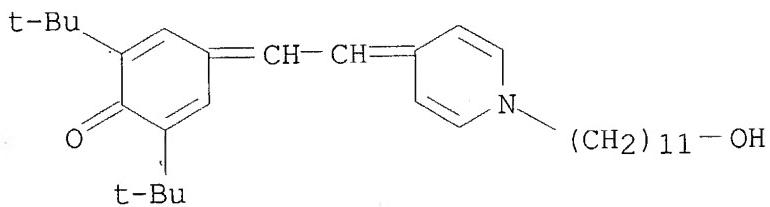
(conversion; action spectra of photopotential generation for pigment and dye solns. in nematic liq. crystals located in **electrochem.** **cell** in relation to)

IT 127-40-2, Luteine 479-61-8, Chlorophyll a 40817-08-1, K15
91178-50-6 97402-82-9, MBBA 98151-73-6

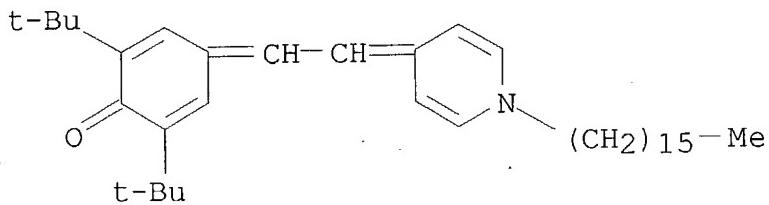
98814-59-6, EBBA

(action spectra of photopotential generation for pigment and dye solns. in nematic liq. crystals located in **electrochem. cell**)

- L9 ANSWER 19 OF 53 HCAPLUS COPYRIGHT 2004 ACS on STN
 1997:681119 Document No. 128:8207 Photoelectrochemical cell with dye molecules oriented in nematic liquid crystal. Naser, N. S.; Planner, A.; Frackowiak, D. (Institute of Physics, Poznan University of Technology, Poznan, 60-965, Pol.). Acta Physica Polonica, A, 92(3), 535-542 (English) 1997. CODEN: ATPLB6. ISSN: 0587-4246. Publisher: Polish Academy of Sciences, Institute of Physics.
- AB A photoelectrochem. cell consisting of two semiconducting electrodes covered by orienting SiO_x layers and filled with merocyanine solns. in nematic liq. crystal was constructed. Dye mols. were oriented as a result of the guest-host effect. Generation of photocurrent by two components of polarized light gives different values of photocurrent amplitude but anisotropy of photocurrent is lower than that of absorption in the region of a free base form of dye. It is explained by dominant participation of a protonated form of dye in the photocurrent generation. The last form exhibits a lower degree of orientation than the free base form of dye.
- IT 98151-73-6 129190-11-0
 (photoelectrochem. cell with dye mols. oriented in nematic liq. crystal)
- RN 98151-73-6 HCAPLUS
 CN 2,5-Cyclohexadien-1-one, 2,6-bis(1,1-dimethylethyl)-4-[(1-(11-hydroxyundecyl)-4(1H)-pyridinylidene)ethylidene]- (9CI) (CA INDEX NAME)



- RN 129190-11-0 HCAPLUS
 CN 2,5-Cyclohexadien-1-one, 2,6-bis(1,1-dimethylethyl)-4-[(1-hexadecyl-4(1H)-pyridinylidene)ethylidene]- (9CI) (CA INDEX NAME)



CC 72-3 (Electrochemistry)

Section cross-reference(s): 74, 75

IT **Electrochemical cells**(photoelectrochem.; photoelectrochem. cell with dye mols.
oriented in nematic liq. crystal)IT 40817-08-1, 5CB 97402-82-9, MBBA **98151-73-6**98814-59-6, EBBA **129190-11-0**(photoelectrochem. cell with dye mols. oriented in nematic liq.
crystal)

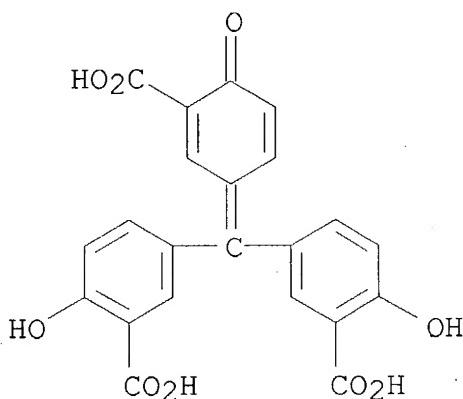
L9 ANSWER 20 OF 53 HCPLUS COPYRIGHT 2004 ACS on STN

1997:407163 Document No. 127:120267 Evidence that 4-hydroxynonenal mediates oxidative stress-induced neuronal apoptosis. Kruman, Inna; Bruce-Keller, Annadora J.; Bredesen, Dale; Waeg, Georg; Mattson, Mark P. (Sanders-Brown Res. Cent. Aging, Dep. Anatomy Neurobiol., Univ. Kentucky, Lexington, KY, 40536, USA). Journal of Neuroscience, 17(13), 5089-5100 (English) 1997. CODEN: JNRSDS. ISSN: 0270-6474. Publisher: Society for Neuroscience.

AB Oxidative stress is believed to play important roles in neuronal cell death assocd. with many different neurodegenerative conditions (e.g., Alzheimer's disease, Parkinson's disease, and cerebral ischemia), and it is believed also that apoptosis is an important mode of cell death in these disorders. Membrane lipid peroxidn. has been documented in the brain regions affected in these disorders as well as in cell culture and in vivo models. We now provide evidence that 4-hydroxynonenal (HNE), an aldehydic product of membrane lipid peroxidn., is a key mediator of neuronal apoptosis induced by oxidative stress. HNE induced apoptosis in PC12 cells and primary rat hippocampal neurons. Oxidative insults (FeSO₄ and amyloid .beta.-peptide) induced lipid peroxidn., cellular accumulation of HNE, and apoptosis. Bcl-2 prevented apoptosis of PC12 cells induced by oxidative stress and HNE. Antioxidants that suppress lipid peroxidn. protected against apoptosis induced by oxidative insults, but not that induced by HNE. Glutathione, which binds HNE, protected neurons against apoptosis induced by oxidative stress and HNE. PC12 cells expressing Bcl-1 exhibited higher levels of glutathione and lower levels of HNE after oxidative stress. Collectively, the data identify that HNE is a novel nonprotein mediator of oxidative stress-induced neuronal apoptosis and suggest

that the antiapoptotic action of glutathione may involve detoxification of HNE.

- IT 4431-00-9, Aurintricarboxylic acid
(effect of various agents on hydroxynonenal- and oxidative stress-induced neuronal apoptosis)
- RN 4431-00-9 HCPLUS
- CN Benzoic acid, 5-[(3-carboxy-4-hydroxyphenyl) (3-carboxy-4-oxo-2,5-cyclohexadien-1-ylidene)methyl]-2-hydroxy- (9CI) (CA INDEX NAME)



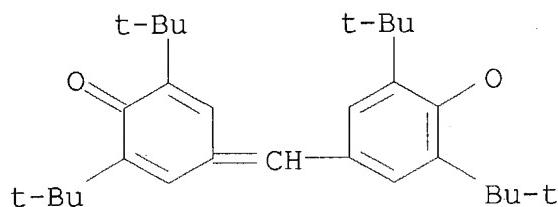
- CC 14-10 (Mammalian Pathological Biochemistry)
- IT 50-76-0, Actinomycin D 66-81-9, Cycloheximide 121-79-9, Propyl gallate 4431-00-9, Aurintricarboxylic acid 92614-59-0,
Glutathione ethyl ester
(effect of various agents on hydroxynonenal- and oxidative stress-induced neuronal apoptosis)

- L9 ANSWER 21 OF 53 HCPLUS COPYRIGHT 2004 ACS on STN
1996:29314 Document No. 124:69729 Low-polarity electrolytes based on crown ether complexes with alkali metal ions. Guba, N. F. (Inst. Fiz. Khim. im. L. V. Pisarzhevskogo, Kiev, Russia). Zhurnal Obshchey Khimii, 65(8), 1301-4 (Russian) 1995. CODEN: ZOKHA4.
ISSN: 0044-460X. Publisher: Nauka.

- AB New low-polarity electrolytes were proposed and studied, based on complexes of 15-crown-5 with ions of alkali metals (Li, Na) in solvents with a low dielec. permeability: benzene, toluene, di-Me ether of ethylene glycol, THF and methylene chloride, characterizing a sp. elec. cond. of 10-5-10-2 .OMEGA.-1-cm-1. In an example of a supporting electrolyte (15-crown-5/NaBPh4) in a medium with a rather low dielec. permeability (benzene), the feasibility is shown of using them in electrochem. processes.

- IT 2370-18-5, Galvinoxyl radical
(electroredn. of galvinoxyl radical in benzene and acetonitrile)
- RN 2370-18-5 HCPLUS

CN Phenoxy, 4-[[3,5-bis(1,1-dimethylethyl)-4-oxo-2,5-cyclohexadien-1-ylidene]methyl]-2,6-bis(1,1-dimethylethyl)- (9CI) (CA INDEX NAME)



CC 72-2 (Electrochemistry)

Section cross-reference(s): 52

ST crown ether complex alkali metal ion; electrochem reaction solvent effect; low polarity electrolyte electrochem process; battery electrolyte low polarity crown complex

IT Battery electrolytes

(elec. cond. of low-polarity electrolyte based on crown ether complexes with alkali metal ions in nonpolar solvents contg. sodium and lithium salts)

IT 2370-18-5, Galvinoxyl radical

(electroredn. of galvinoxyl radical in benzene and acetonitrile)

L9 ANSWER 22 OF 53 HCAPLUS COPYRIGHT 2004 ACS on STN

1995:986550 Document No. 124:12356 Manufacture of anode materials for secondary lithium batteries and the batteries.

Kakazu, Takanori; Fujimoto, Hiroyuki; Mabuchi, Akihiro (Osaka Gas Co Ltd, Japan). Jpn. Kokai Tokkyo Koho JP 07249411 A2 19950926 Heisei; 6 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1994-67551 19940311.

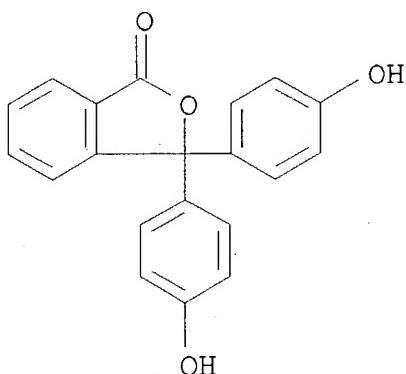
AB The anode materials are prep'd. by pretreating a carbonizable material at $\Delta t \geq 600^\circ\text{C}$ $\Delta g \geq 10 \text{ kg/cm}^2$ inert gas atm. and carbonizing the treated material. Secondary Li batteries use the carbonized material for their anodes.

IT 77-09-8, Phenolphthalein

(pretreatment of precursors in manuf. of carbonaceous anode materials for secondary lithium batteries)

RN 77-09-8 HCAPLUS

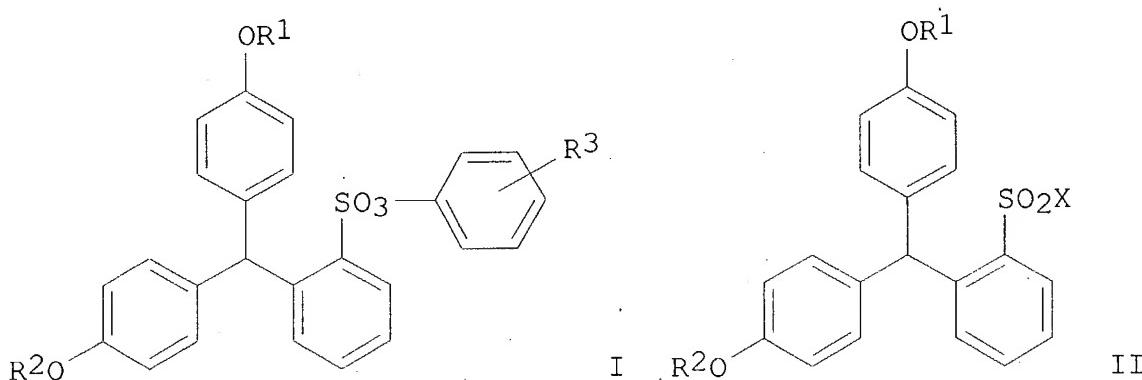
CN 1(3H)-Isobenzofuranone, 3,3-bis(4-hydroxyphenyl)- (9CI) (CA INDEX NAME)



IC ICM H01M004-04
 ICS C01B031-30; H01M004-58; H01M010-36
 CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
 ST lithium **battery** carbonaceous anode; **battery**
 anode carbonaceous material manuf
 IT Carbonaceous materials
 (pretreatment of precursors in manuf. of carbonaceous anode
 materials for lithium **batteries**)
 IT Anodes
 (**battery**, pretreatment of precursors in manuf. of
 carbonaceous anode materials for secondary lithium
batteries)
 IT 7727-37-9, Nitrogen, uses
 (pretreatment of precursors in manuf. of carbonaceous anode
 materials for secondary lithium **batteries**)
 IT 77-09-8, Phenolphthalein 208-96-8, Acenaphthylene
 (pretreatment of precursors in manuf. of carbonaceous anode
 materials for secondary lithium **batteries**)

L9 ANSWER 23 OF 53 HCAPLUS COPYRIGHT 2004 ACS on STN
 1995:938680 Document No. 124:86577 Preparation of benzenesulfonic acid
 derivatives and their use as osteoporosis treatment agents. Okano,
 Tadashi; Yoshida, Tomohiro; Inoe, Yoshihisa; Matsuoka, Yasushi; Ri,
 Ryoko; Sugiura, Masanori; Yamauchi, Koichi (Green Cross Corp,
 Japan). Jpn. Kokai Tokkyo Koho JP 07238066 A2 19950912 Heisei, 10
 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1994-29351
 19940228.

GI



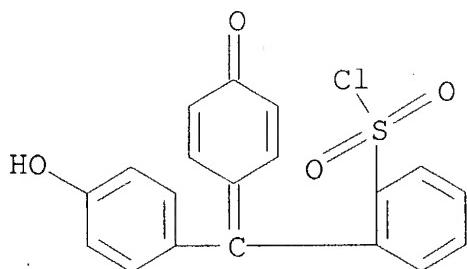
AB The title derivs. I (R₁₋₂ = H, alkyl, acyl, aralkyl; R₃ = halo, alkyl, alkoxy) are prep'd. by treating bis(phenyl)benzenesulfonyl halides II with R₃C₆H₄OH. A soln. of II (R₁ = R₂ = Ac, X = Cl) and p-ClC₆H₄OH in CH₂C₂Cl₂ was treated with Et₃N under ice cooling, then stirred at room temp. over night to give I (R₁ = R₂ = Ac, R₃ = 4-Cl). I (R₁ = R₂ = Ac, R₃ = 4-Cl) at 10-11 to 10-6 M inhibited human PTH-induced cAMP prodn. of **primary** osteoblast cells in vitro.

IT 172464-35-6

(in prepn. of prepn. [bis(phenyl)methyl]benzenesulfonyl halides for prepn. of bis(phenyl)(phenoxy sulfonyl)phenylmethanes)

RN 172464-35-6 HCPLUS

CN Benzenesulfonyl chloride, 2-[(4-hydroxyphenyl)(4-oxo-2,5-cyclohexadien-1-ylidene)methyl]- (9CI) (CA INDEX NAME)



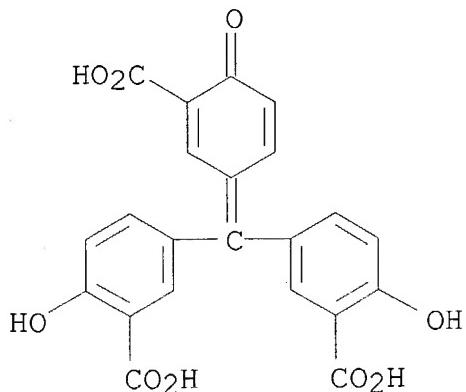
IC ICM C07C309-75
ICS A61K031-255

CC 25-13 (Benzene, Its Derivatives, and Condensed Benzenoid Compounds)
Section cross-reference(s): 1

IT 172464-35-6

(in prepn. of prepn. [bis(phenyl)methyl]benzenesulfonyl halides for prepn. of bis(phenyl)(phenoxy sulfonyl)phenylmethanes)

- L9 ANSWER 24 OF 53 HCPLUS COPYRIGHT 2004 ACS on STN
1995:915913 Document No. 124:5728 Apoptosis in the neuronal lineage of the mouse olfactory epithelium: Regulation in vivo and in vitro.
Holcomb, J. David; Mumm, Jeffrey S.; Calof, Anne L. (Department of Biological Sciences, University of Iowa, Iowa City, IA, 52242, USA). Developmental Biology, 172(1), 307-23 (English) 1995. CODEN: DEBIAO. ISSN: 0012-1606. Publisher: Academic.
- AB The olfactory epithelium (OE) of the mouse provides a unique system for understanding how cell birth and cell death interact to regulate neuron no. during development and regeneration. We have examd. cell death in the OE in normal adult mice; in adult mice subjected to unilateral olfactory bulbectomy (surgical removal of one olfactory bulb, the synaptic target of olfactory receptor neurons (ORNs) of the OE); and in **primary cell** cultures derived from embryonic mouse OE. In vivo, cells at all stages in the neuronal lineage - proliferating neuronal precursors, immature ORNs, and mature ORNS - displayed signs of apoptotic cell death; nonneuronal cells did not. Bulbectomy dramatically increased the no. of apoptotic cells in the OE on the bulbectomized side. Shortly following bulbectomy, increased cell death involved neuronal cells of all stages. Later, cell death remained persistently elevated, but this was due to increased apoptosis by mature ORNs along. In vitro, apoptotic death of both ORNs and their precursors could be inhibited by agents that prevent apoptosis in other cells: aurintricarboxylic acid (ATA), a membrane-permeant analog to cAMP (CPT-cAMP), and certain members of the neurotrophin family of growth factors (brain-derived neurotrophic factor, neurotrophin 3, and neurotrophin 5), although no neurotrophin was as effective at promoting survival as ATA or CPT-cAMP. Consistent with obsd. effects of neurotrophins, immunohistochem. localized the neurotrophin receptors trkB and trkC to fractions of ORNs scattered throughout neonatal OE. These results suggest that apoptosis may regulate neuronal no. of the OE at multiple stages in the neuronal lineage and that multiple factors - potentially including certain neurotrophins - may be involved in this process.
- IT 4431-00-9, Aurintricarboxylic acid
(neurotrophins regulation of apoptosis in the neuronal lineage of olfactory epithelium)
- RN 4431-00-9 HCPLUS
- CN Benzoic acid, 5-[(3-carboxy-4-hydroxyphenyl)(3-carboxy-4-oxo-2,5-cyclohexadien-1-ylidene)methyl]-2-hydroxy- (9CI) (CA INDEX NAME)



CC 13-6 (Mammalian Biochemistry)
 IT 60-92-4, CAMP 4431-00-9, Aurintri carboxylic acid
 130939-66-1, Neurotrophin 3, 143375-33-1, Neurotrophin 5,
 (neurotrophins regulation of apoptosis in the neuronal lineage of
 olfactory epithelium)

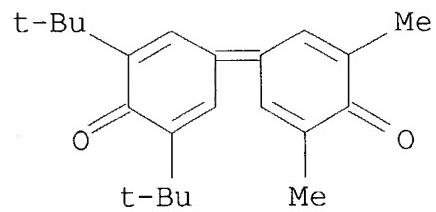
L9 ANSWER 25 OF 53 HCAPLUS COPYRIGHT 2004 ACS on STN
 1995:667141 Document No. 123:72536 Photoconductive components. Naito,
 Katsuyuki; Watanabe, Yoko; Sakai, Tadashi (Tokyo Shibaura Electric
 Co, Japan). Jpn. Kokai Tokkyo Koho JP 06350133 A2 19941222 Heisei,
 9 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1993-138422
 19930610.

AB The components having hydrophilic transparent electrodes have a
 hydrophilic group-substd. polysilane thin-film. The use of the
 hydrophilic polysilane thin-film in the components gives improved
 contact and adhesion to the electrodes.

IT 126657-30-5
 (electroluminescent film for photoconductive components having
 hydrophilic transparent electrodes and hydrophilic polysilane
 thin-film)

RN 126657-30-5 HCAPLUS

CN 2,5-Cyclohexadien-1-one, 2,6-bis(1,1-dimethylethyl)-4-(3,5-dimethyl-
 4-oxo-2,5-cyclohexadien-1-ylidene)- (9CI) (CA INDEX NAME)



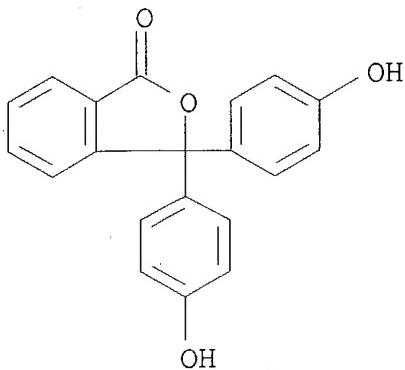
IC ICM H01L033-00
ICS H01L029-28; H05B033-14
CC 76-5 (Electric Phenomena)
Section cross-reference(s): 52, 73, 74
IT **Batteries, secondary**
(photogalvanic, hydrophilic transparent electrodes laminated with
hydrophilic group-substd. polysilane thin-film in)
IT 2085-33-8 2519-10-0 52411-83-3 58473-78-2 **126657-30-5**
148044-11-5
(electroluminescent film for photoconductive components having
hydrophilic transparent electrodes and hydrophilic polysilane
thin-film)

L9 ANSWER 26 OF 53 HCPLUS COPYRIGHT 2004 ACS on STN
1995:608887 Document No. 123:13678 Charge/discharge characteristics of
synthetic carbon anode for lithium secondary **battery**.
Tokumitsu, K.; Mabuchi, A.; Fujimoto, H.; Kasuh, T. (Research and
Development Center, Osaka Gas Co., Ltd., 6-19-9, Torishima
Konohana-ku, Osaka, 554, Japan). Journal of Power Sources, 54(2),
444-7 (English) 1995. CODEN: JPSODZ. ISSN: 0378-7753. Publisher:
Elsevier.

AB To clarify the relationship between the carbon structures and
electrochem. properties, several kinds of model carbons with
different structures were synthesized from three types of pure
compds., acenaphthylene, coronene and phenolphthalein, and their
electrochem. characteristics were investigated. As a result, all
the model carbons carbonized at 800.degree. demonstrate higher
capacities than the theor. one (372 Ah kg-1). Moreover, the
structures of the carbons synthesized from the admixts. of
acenaphthylene and phenolphthalein were detd. by the dominant
component, acenaphthylene or phenolphthalein and their discharge
capacities were also detd. by the corresponding concn. in the carbon
mixt.

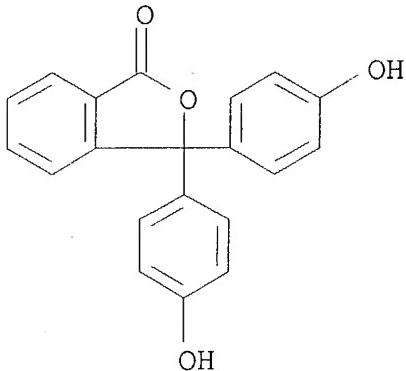
IT **77-09-8, Phenolphthalein**
(carbon precursor; charge/discharge characteristics of synthetic
carbon anode for lithium secondary **battery**)

RN 77-09-8 HCPLUS
CN 1 (3H)-Isobenzofuranone, 3,3-bis(4-hydroxyphenyl)- (9CI) (CA INDEX
NAME)



- CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
 ST lithium **battery** synthetic carbon anode
 IT Anodes
 (**battery**, charge/discharge characteristics of synthetic carbon anode for lithium secondary **battery**)
 IT 77-09-8, Phenolphthalein 191-07-1, Coronene 208-96-8,
 Acenaphthylene
 (carbon precursor; charge/discharge characteristics of synthetic carbon anode for lithium secondary **battery**)
 IT 7440-44-0, Carbon, uses
 (graphitizable and nongraphitizable; charge/discharge characteristics of synthetic carbon anode for lithium secondary **battery**)
- L9 ANSWER 27 OF 53 HCAPLUS COPYRIGHT 2004 ACS on STN
 1995:572770 Document No. 122:318620 Charge/discharge mechanism of synthetic carbon anode for lithium secondary **battery**.
 Tokumitsu, K.; Mabuchi, A.; Fujimoto, H.; Kasuh, T. (Research and Development Center, Osaka Gas Co., Ltd., Osaka, 554, Japan). Proceedings - Electrochemical Society, 94-28 (Rechargeable Lithium and Lithium-Ion Batteries), 136-42 (English) 1995.. CODEN: PESODO. ISSN: 0161-6374. Publisher: Electrochemical Society.
- AB The charge-discharge reaction mechanism of the model carbons derived from acenaphthylene graphitized at 2780.degree. is the intercalation reaction by Li species which is similar to that of the other graphitic materials. The charge-discharge reaction mechanism of the model carbons derived from phenolphthalein graphitized at 2780.degree. is a reaction which will be related to the surface of carbon.
- IT 77-09-8, Phenolphthalein
 (carbon precursor; charge/discharge mechanism of synthetic carbon anode for lithium secondary **battery**)
- RN 77-09-8 HCAPLUS
 CN 1(3H)-Isobenzofuranone, 3,3-bis(4-hydroxyphenyl)- (9CI) (CA INDEX

NAME)

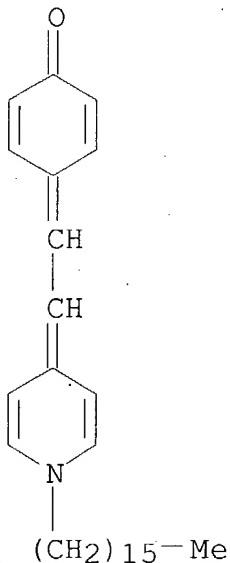


- CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
 ST lithium **battery** carbon anode
 IT Anodes
 (**battery**, charge/discharge mechanism of synthetic
 carbon anode for lithium secondary **battery**)
 IT 77-09-8, Phenolphthalein 208-96-8, Acenaphthylene
 (carbon precursor; charge/discharge mechanism of synthetic carbon
 anode for lithium secondary **battery**)
 IT 7440-44-0, Carbon, uses 7782-42-5, Graphite, uses
 (charge/discharge mechanism of synthetic carbon anode for lithium
 secondary **battery**)

L9 ANSWER 28 OF 53 HCAPLUS COPYRIGHT 2004 ACS on STN
 1995:548126 Document No. 122:295271 Heat-induced voltage generation in hexadecyl merocyanine dye-probed planar lipid membranes. Das, S.; Basu, R.; Ghose, A.; Minch, M.; Nandy, P. (Dep. X-Ray Crystallography, Central Glass Ceramic Res. Inst., Calcutta, 700 032, India). Dyes and Pigments, 27(4), 333-8 (English) 1995.
 CODEN: DYPIDX. ISSN: 0143-7208. Publisher: Elsevier.

AB A hexadecyl merocyanine dye was used as a heat driven proton gate, by incorporating it in a planar lipid membrane which is a good model for biol. membranes. Being hydrophobic in nature, it prevents charge recombination, and transmembrane voltages of high magnitude (.apprx.310 mV) were obtained upon heating. The process was reversible and the whole cycle took about 20 h, suggesting that the system could be used as a heat driven storage cell. Comparison of the X-ray diffraction patterns of the thin films of the dye at 30.degree. showed a heat-induced conformational change in the cryst. structure of the dye. From DTA three reversible phase transitions were obsd., at 39.cndot.2.degree., 53.cndot.7.degree. and 62.cndot.1.degree., and the assocd. enthalpy changes were calcd. The results indicate that the heat-induced conformational change of

IT the dye mol. is responsible for the obsd. thermovoltage generation.
58346-32-0
(heat-induced voltage generation in hexadecyl merocyanine
dye-probed planar lipid membranes)
RN 58346-32-0 HCAPLUS
CN 2,5-Cyclohexadien-1-one, 4-[(1-hexadecyl-4(1H)-
pyridinylidene)ethylidene]- (9CI) (CA INDEX NAME)



CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
Section cross-reference(s): 6

ST thermovoltage generation hexadecyl merocyanine dye membrane; lipid
membrane merocyanine dye thermovoltage generation; **battery**
lipid membrane merocyanine dye

IT **Batteries**, primary
Electric potential
Membranes
(heat-induced voltage generation in hexadecyl merocyanine
dye-probed planar lipid membranes)

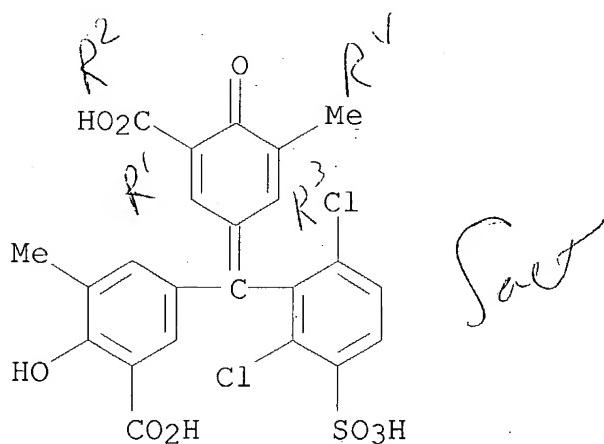
IT **58346-32-0**
(heat-induced voltage generation in hexadecyl merocyanine
dye-probed planar lipid membranes)

GI For diagram(s), see printed CA Issue.
 AB The **batteries** contain I [Z1-2 = groups forming (substituted) N-contg. heterocycle; Z1 and Z2 may form (substituted) N-contg. heterocycle], cyclic tetrapyrroles, II [Z3 = Z1; Z4 = (substituted) arom. ring; X = H, OH, SH, amino, sulfo (salt), phospho (salt), arsено (salt), carboxy (salt)], III [Z5-6 = Z4; Y = N, CH; X1-2 = OH, hydroxy salt, SH, sulfo (salt), carboxy (salt), arsено (salt), phospho (salt)], IV (Z7-9 = Z4), amino polyacids, quinoline, or quinoline derivs. Marked drop in capacity is prevented.

IT 1667-99-8
 (nonaq. secondary **batteries** contg.)

RN 1667-99-8 HCPLUS

CN Benzoic acid, 5-[(3-carboxy-5-methyl-4-oxo-2,5-cyclohexadien-1-ylidene)(2,6-dichloro-3-sulfophenyl)methyl]-2-hydroxy-3-methyl-, trisodium salt (9CI) (CA INDEX NAME)



● 3 Na

IC ICM H01M010-40
 ICS H01M004-02

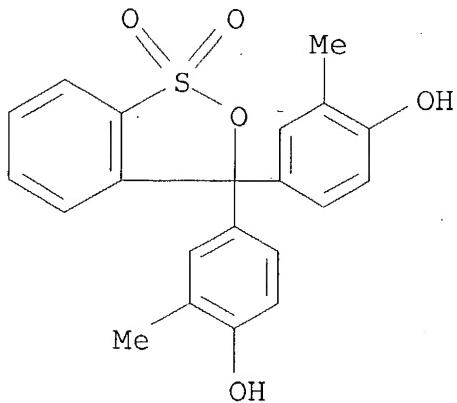
CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
 ST **battery** nonaq additive nitrogen heterocycle

IT **Batteries**, secondary
 (nonaq.; contg. nitrogen-contg. additives)

IT 91-22-5, Quinoline, uses 885-04-1 979-88-4 1571-36-4, Stilbazo
1667-99-8 2113-70-4 3547-38-4 22243-63-6 28048-33-1
 36951-72-1 40386-51-4 53611-17-9 53744-42-6 69458-20-4
 87035-60-7 91599-24-5 132097-27-9 132097-29-1 143205-66-7
 164581-17-3 164581-18-4 164581-19-5 164581-20-8 164581-21-9
 164581-22-0 164581-23-1 164581-24-2 164581-25-3 164581-26-4

164581-27-5 164581-28-6 164581-29-7 164581-30-0 164581-31-1
 164581-32-2 164581-33-3 164581-34-4
 (nonaq. secondary **batteries** contg.)

- L9 ANSWER 30 OF 53 HCPLUS COPYRIGHT 2004 ACS on STN
 1993:542957 Document No. 119:142957 Slurry for use in secondary metal-air **batteries**. Goldstein, Jonathan; Meitay, Arieh (Electric Fuel, Ltd., Israel). U.S. US 5206096 A 19930427, 5 pp. (English). CODEN: USXXAM. APPLICATION: US 1990-636226 19901231.
- AB The slurry comprises particulate porous Zn-contg. material (particle size 100-500 .mu.m, d. 0.3-1.4 g/cm³, and surface area 0.5-6.0 m²/g), an aq. soln. of .gtoreq.1 Group IA metal hydroxide, an inorg. inhibitor to inhibit reaction of the particulate Zn-contg. material with the aq. soln. to prevent evolution of H, a gelling agent, a particulate and/or fibrous filler, a labeling agent, and a dissolved electrolyte extender. The wt. ratio of porous Zn-contg. material:aq. soln.:inorg. inhibitor is 1:(0.5-2.0):(0.0005-0.04). The inorg. inhibitor is selected from the group consisting of 1 of oxides of Bi, Cd, Ga, In, Pb, Hg, Tl, and Sn and 1 of sulfides of Cd, Fe, Pb, and Hg; the gelling agent is selected from poly(acrylic acid), CMC, and partly hydrolyzed poly(acrylonitrile); the filler is selected from powd. graphite, carbon fibers, cellulose fibers, Ca(OH)₂, SiO₂, TiO₂, etc.; the labeling agent is selected from dyes and encapsulated magnetic particles; and the extender is selected from K silicate, Na silicate, sorbitol, K borate, and/or K phosphates.
- IT 1733-12-6, Cresol Red
 (labeling agents, alk. slurry contg., for zinc-air **batteries**)
- RN 1733-12-6 HCPLUS
- CN Phenol, 4,4'-(1,1-dioxido-3H-2,1-benzoxathiol-3-ylidene)bis[2-methyl- (9CI) (CA INDEX NAME)



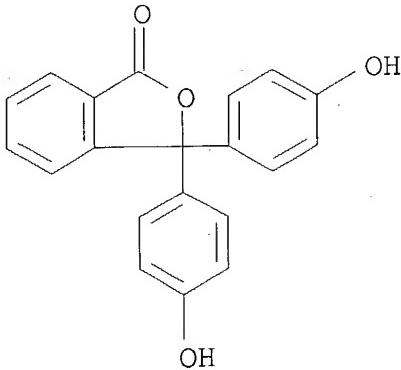
IC ICM H01M004-86
NCL 429027000
CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
ST metal air **battery** slurry; zinc air **battery**
slurry; inhibitor zinc air **battery** slurry; filler zinc air
battery slurry; gelling agent zinc **battery** slurry;
labeling agent zinc **battery** slurry; electrolyte extender
zinc **battery** slurry
IT Glass, oxide
Polyamides, uses
(alk. slurry contg. zinc-coated particulate, for
batteries)
IT Synthetic fibers, polymeric
(cellulosic fillers, alk. slurry contg., for zinc-air
batteries)
IT Carbon fibers, uses
(fillers, alk. slurry contg., for zinc-air **batteries**)
IT Quaternary ammonium compounds, uses
(inhibitors, alk. slurry contg., for zinc-air **batteries**
)
IT **Batteries**, secondary
(zinc-air, slurry for)
IT 7440-66-6, Zinc, uses
(alk. slurry contg. particulate porous, for **batteries**)
IT 9002-86-2, PVC 9002-88-4, Polyethylene 9003-07-0, Polypropylene
(alk. slurry contg. zinc-coated particulate, for
batteries)
IT 7440-44-0
(carbon fibers, fillers, alk. slurry contg., for zinc-air
batteries)
IT 50-70-4, Sorbitol, uses 1312-76-1, Potassium silicate 1344-09-8,
Sodium silicate 12712-38-8, Potassium borate 16068-46-5,
Potassium phosphate
(electrolyte extenders, alk. slurry contg., for zinc-air
batteries)
IT 7439-92-1, Lead, uses 7440-02-0, Nickel, uses 7440-22-4, Silver,
uses 7440-31-5, Tin, uses 7440-43-9, Cadmium, uses 7440-50-8,
Copper, uses
(fillers from glass or polymeric microspheres coated with, alk.
slurry contg., for zinc-air **batteries**)
IT 7782-42-5, Graphite, uses
(fillers, alk. slurry contg. powd., for zinc-air
batteries)
IT 1305-62-0, Calcium hydroxide, uses 1344-54-3, Titanium oxide
(Ti2O3) 7631-86-9, Silica, uses 13463-67-7, Titania, uses
(fillers, alk. slurry contg., for zinc-air **batteries**)
IT 9003-01-4, Poly(acrylic acid) 9004-32-4, CMC 25014-41-9D,
Poly(acrylonitrile), hydrolyzed

- (gelling agents, alk. slurry contg., for zinc-air batteries)
- IT 1304-76-3, Bismuth oxide (Bi₂O₃), uses 1306-19-0, Cadmium oxide, uses 1306-23-6, Cadmium sulfide, uses 1312-43-2, Indium oxide (In₂O₃) 1314-32-5, Thallium oxide (Tl₂O₃) 1314-87-0, Lead sulfide 1332-29-2, Tin oxide 1335-25-7, Lead oxide 7664-38-2, Phosphoric acid, uses 11126-12-8, Iron sulfide 12024-21-4, Gallium oxide (Ga₂O₃) 12653-71-3, Mercury oxide 37251-50-6, Mercury sulfide
 (inhibitors, alk. slurry contg., for zinc-air batteries
)
- IT 9002-84-0, PTFE
 (labeling agents from magnetite encapsulated with, alk. slurry contg., for zinc-air batteries)
- IT 1317-61-9, Iron oxide (Fe₃O₄), uses
 (labeling agents from polymer-encapsulated, alk. slurry contg., for zinc-air batteries)
- IT 518-47-8, Sodium fluorescein 1733-12-6, Cresol Red
 (labeling agents, alk. slurry contg., for zinc-air batteries)

L9 ANSWER 31 OF 53 HCPLUS COPYRIGHT 2004 ACS on STN
 1993:521248 Document No. 119:121248 Electrochromic thin film detector for determining the state of charge and voltage of a **battery**
 Bailey, John C. (Eveready Battery Co., Inc., USA). Can. Pat.
 Appl. CA 2056139 AA 19920801, 34 pp. (English). CODEN: CPXXEB.
 APPLICATION: CA 1991-2056139 19911125. PRIORITY: US 1991-648080
 19910131.

AB A tester for use in detg. the voltage and state-of-charge of a **battery** can be permanently mounted on the **battery** and employs an electrochromic cell which changes visual appearance, e.g., color or intensity of color, when elec. connected across the terminals of a **battery**. The electrochromic cell undergoes an oxidn./redn. reaction on direct application of the d.c. potential of the **battery**. The color of the cell can be compared with a color comparison chart to det. the condition of the **battery**. The tester can be permanently elec. connected to the **battery** or preferably connected momentarily to det. the state of the **battery**. The electrochromic material can be WO₃, MoO₃, TiO₂, SnO₂, Cr₂O₃, NiO₂, Mn₂O₃, MnO₂, and Prussian blue. Alternately, the material can be a redox indicator in an electrolyte soln. or gel.

- IT 77-09-8, Phenolphthalein
 (redox indicator, in electrochromic **battery** tester for charge detn.)
- RN 77-09-8 HCPLUS
- CN 1(3H)-Isobenzofuranone, 3,3-bis(4-hydroxyphenyl)- (9CI) (CA INDEX NAME)



- IC ICM G01R031-36
ICS H01M006-02; H01M006-50
CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
ST charge detn **battery** electrochromic tester
IT **Batteries**, primary
(charge detn. of, electrochromic tester for)
IT 144-62-7D, Oxalic acid, reaction products with potassium tungstate
1308-38-9, Chromium oxide (cr₂O₃), uses 1313-13-9, Manganese oxide
(mno₂), uses 1313-27-5, Molybdenum oxide (moo₃), uses 1314-35-8,
Tungsten oxide (wo₃), uses 1317-34-6, Manganese oxide (mn₂O₃)
7790-60-5D, reaction products with oxalic acid 12035-36-8, Nickel
oxide (nio₂) 12240-15-2, Prussian blue 13463-67-7, Titania, uses
18282-10-5, Tin oxide (sno₂)
(electrochromic material, tester contg., for charge detn. of
batteries)
IT 61-73-4, Methylene blue 77-09-8, Phenolphthalein
531-91-9, N,N'-Diphenylbenzidine 1064-48-8, Naphthol blue black
2150-58-5, N,N-Dimethylindoaniline 8004-87-3, Methyl violet
87831-33-2, Ethyl red
(redox indicator, in electrochromic **battery** tester for
charge detn.)
- L9 ANSWER 32 OF 53 HCPLUS COPYRIGHT 2004 ACS on STN
1991:568860 Document No. 115:168860 **Electrochemical**
cell with stilbazolium merocyanines oriented in a nematic
liquid crystal. Goc, J.; Frackowiak, D. (Inst. Phys., Poznan Tech.
Univ., Poznan, 60-696, Pol.). Journal of Photochemistry and
Photobiology, A: Chemistry, 59(2), 233-41 (English) 1991. CODEN:
JPPCEJ. ISSN: 1010-6030.
- AB The photovoltaic effect and current vs. voltage (I vs. V)
characteristics of an **electrochem. cell**,
consisting of a layer of merocyanine (1-(6'-hydroxyhexyl)-4-[(3,5-di-
tert-butyl-4-oxocyclohexa-2,5-dienylidene)ethylidene]-1,4-

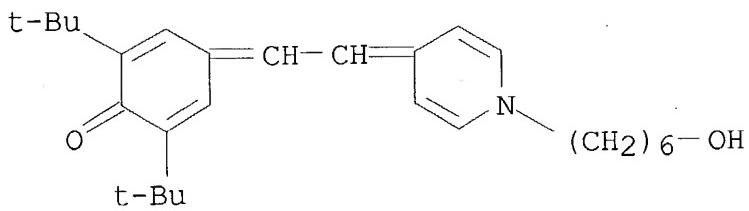
dihydropyridine and 1-(11'-hydroxyundecyl)-4-[(3,5-di-tert-butyl-4-oxocyclohexa-2,5-dienylidene) ethylidene]-1,4-dihydropyridine) in a nematic liq. crystal (MBBA plus EBBA) sandwiched between 2 semiconducting (In2O3) electrodes and covered with polyimide orienting layers, were investigated. Both dyes were uniaxially oriented as a result of the guest-host effect, but the dye with the longer chain was oriented to a lower degree. Both dyes occur in free base and protonated forms. The max. of the photopotential action spectrum is located in the absorption region of the protonated form of the dye. The 1st illumination of the cell generates formation potentials of opposite sign for the 2 merocyanines investigated. The difference in sign can be related to several processes, such as the different perturbations of the liq. crystal arrangement (which can produce an addnl. polarized charge of the matrix) and the different concns. of free base and protonated forms. The dye located at the illuminated semiconducting electrode (which is responsible for the formation of the surface charge) and the dye mols. dissolved in the bulk vol. of the liq. crystal are both responsible for this effect. A sequence of light and dark periods applied to a formed cell generates an addnl. neg. potential related to electron tunneling from the excited dye mols. to the semiconducting electrode. The cells are sensitive to the polarization of the light. All the obsd. effects can be related to the interaction of the dye mols. with the liq. crystal matrix and to the elec. field formed at the junction between the illuminated semiconducting electrode and the pigmented liq. crystal layer.

IT 91178-50-6 98151-73-6

(photovoltaic effect of cell with liq. crystal and, between indium oxide electrodes)

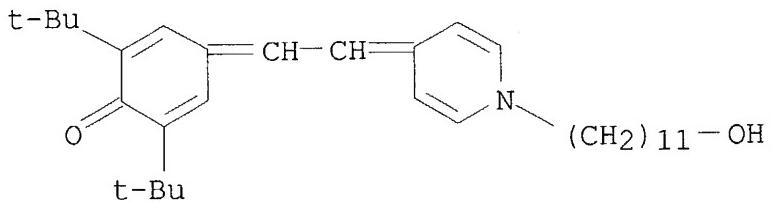
RN 91178-50-6 HCAPLUS

CN 2,5-Cyclohexadien-1-one, 2,6-bis(1,1-dimethylethyl)-4-[[1-(6-hydroxyhexyl)-4(1H)-pyridinylidene]ethylidene]- (9CI) (CA INDEX NAME)



RN 98151-73-6 HCAPLUS

CN 2,5-Cyclohexadien-1-one, 2,6-bis(1,1-dimethylethyl)-4-[[1-(11'-hydroxyundecyl)-4(1H)-pyridinylidene]ethylidene]- (9CI) (CA INDEX NAME)



CC 72-2 (Electrochemistry)

Section cross-reference(s): 41, 75, 76

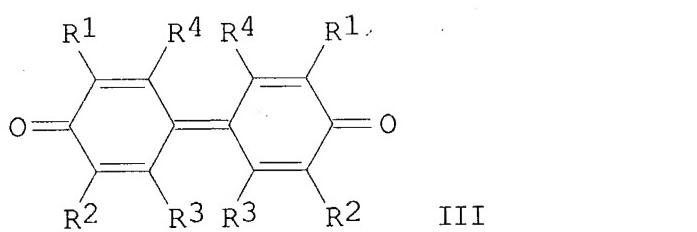
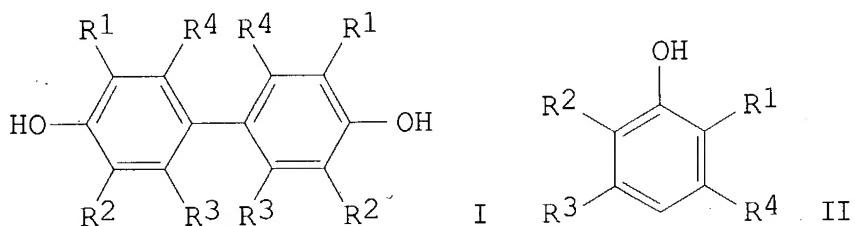
IT 91178-50-6 98151-73-6

(photovoltaic effect of cell with liq. crystal and, between
indium oxide electrodes)

L9 ANSWER 33 OF 53 HCPLUS COPYRIGHT 2004 ACS on STN

1990:561226 Document No. 113:161226 Electrolytic preparation of
4,4'-dihydroxybiphenyls. Torii, Shigeru; Iguchi, Tsutomu; An,
Deiman; Araki, Yoshitake; Maki, Takao (Mitsubishi Kasei Corp.,
Japan). Jpn. Kokai Tokkyo Koho JP 02047284 A2 19900216 Heisei, 5
pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1988-195265
19880804.

GI

AB 4,4'-Dihydroxybiphenyls (I; R1-2 = C1-12 alkyl; R3-4 = H, C1-12
alkyl) are prep'd. by electrolytic oxidn. of alkylphenols (II) in an
anode chamber to give 4,4'-diphenoquinones (III) which are then
electrolytically reduced in the cathode chamber of diaphragm-sepd.

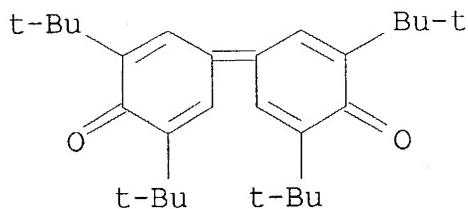
electrolytic cells. High-purity I, useful as pesticides, antioxidants, stabilizers, etc., are prep'd. at high yield.

IT 2455-14-3P

(prepn. and electrolytic redn. of, for hydroxybiphenyls)

RN 2455-14-3 HCPLUS

CN 2,5-Cyclohexadien-1-one, 4-[3,5-bis(1,1-dimethylethyl)-4-oxo-2,5-cyclohexadien-1-ylidene]-2,6-bis(1,1-dimethylethyl)- (9CI) (CA INDEX NAME)



IC ICM C25B003-10

CC 72-9 (Electrochemistry)

Section cross-reference(s): 25, 45

IT 2455-14-3P

(prepn. and electrolytic redn. of, for hydroxybiphenyls)

L9 ANSWER 34 OF 53 HCPLUS COPYRIGHT 2004 ACS on STN

1989:129958 Document No. 110:129958 A test **battery** of

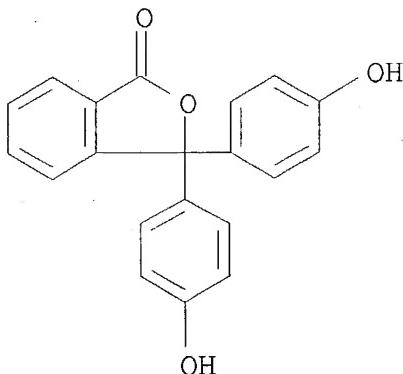
bacterial toxicity assays and comparison with LD50 values. Lenz, P.; Suessmuth, R.; Seibel, E. (Inst. Microbiol., Univ. Hohenheim, Stuttgart, D-7000, Fed. Rep. Ger.). Toxicity Assessment, 4(1), 43-52 (English) 1989. CODEN: TOASER. ISSN: 0884-8181.

AB The toxicity of some mycotoxins, lactones and dicarboxylic anhydrides, insecticides, herbicides, and fungicides can be detected by means of bacterial assays. In addn., the order of magnitude of the toxicity can also be evaluated. Fifty-eight chems. as well as exts. of peanuts, apple juices, and grains have been investigated in a test **battery** of .apprx.0.1 mg/mL of mycotoxin may be detected by means of growth inhibition assays with *Bacillus thuringiensis* on 1 hand, and pigment synthesis inhibition assays with mutants of *Serratia marcescens* on the other hand. Swarming inhibition assays with the motile strains *Azospirillum brasiliense* and *Proteus mirabilis* show the same sensitivity. Comparisons of the test **battery** with other bioassays, as well as with mammalian toxicity tests (LD50 values), reveal correlations between these kinds of assays in regard to the test substances.

IT 77-09-8, Phenolphthalein

(toxicity of, bacterial assays for evaluation of, LD50 values comparison with)

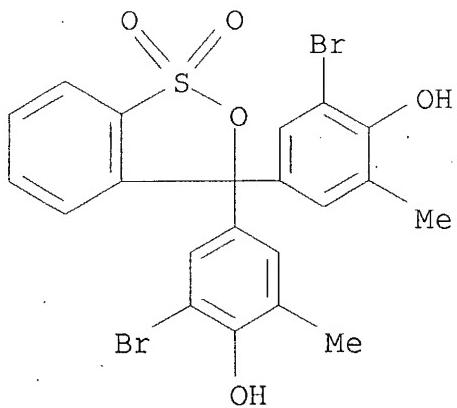
RN 77-09-8 HCPLUS
 CN 1(3H)-Isobenzofuranone, 3,3-bis(4-hydroxyphenyl)- (9CI) (CA INDEX
 NAME)



CC 4-1 (Toxicology)
 Section cross-reference(s): 17
 IT 50-29-3, p,p'-DDT, biological studies 56-23-5, biological studies
 56-38-2, Parathion 57-47-6 58-89-9, Lindane 60-51-5 60-57-1,
 Dieldrin 72-43-5, Methoxychlor 77-09-8, Phenolphthalein
 79-01-6, biological studies 79-91-4, Terebic acid 85-44-9,
 Phthalic anhydride 87-41-2, Phthalide 89-65-6, D-Isoascorbic
 acid 90-65-3, Penicillic acid 94-75-7, 2,4-D, biological studies
 96-48-0, .gamma.-Butyrolactone 108-29-2, .gamma.-Valerolactone
 108-30-5, Succinic anhydride, biological studies 108-31-6, Maleic
 anhydride, biological studies 121-75-5, Malathion 122-34-9,
 Simazin 149-29-1, Patulin 303-47-9, Ochratoxin A 309-00-2,
 Aldrin 311-45-5, Diethyl-p-nitrophenylphosphate 330-54-1, Diuron
 497-23-4, 2(5H)-Furanone 501-30-4, Kojic acid 517-23-7,
 .alpha.-Acetyl-.gamma.-butyrolactone 518-75-2, Citrinin
 547-65-9, .alpha.-Methylene-.gamma.-butyrolactone 935-79-5,
 cis-1,2,3,6-Tetrahydrophthalic anhydride 1162-65-8, Aflatoxin B1
 1165-39-5, Aflatoxin G1 1679-49-8, .beta.-Methyl-.gamma.-
 butyrolactone 1698-60-8 1836-75-5, Nitrofen 2170-03-8,
 Itaconic anhydride 4702-32-3, Isocitric acid lactone 4808-48-4,
 Diphenylmaleic anhydride 4971-56-6, 2,4(3H,5H)-Furandione
 6322-07-2, D-Gulonic acid-.gamma.-lactone 7220-81-7, Aflatoxin B2
 7241-98-7, Aflatoxin G2 8068-44-8, Clophen A 50 10008-73-8,
 .gamma.-Methylene-.gamma.-butyrolactone 10048-13-2,
 Sterigmatocystin 15310-01-7, Benodanil 17924-92-4, Zearalenone
 18172-33-3, Cyclopiazonic acid 20856-57-9, Imugan 21794-01-4,
 Rubratoxin B 21884-44-6, Luteoskyrin 24691-76-7, Pyracarbolid
 34849-42-8, Cyclafuramid 36455-72-8, Zearalenol
 (toxicity of, bacterial assays for evaluation of, LD50 values
 comparison with)

L9 ANSWER 35 OF 53 HCAPLUS COPYRIGHT 2004 ACS on STN
 1988:109175 Document No. 108:109175 Development of new plate tests for the detection of microbial hydrolysis of esters and oxidations of 2-hydroxycarboxylic acids. Yamazaki, Y.; Kula, M. R. (Inst. Enzymtechnol., Kernforschungsanlage Juelich, Juelich, D-5170, Fed. Rep. Ger.). Zeitschrift fuer Naturforschung, C: Journal of Biosciences, 42(11-12), 1187-92 (German) 1987. CODEN: ZNCBDA. ISSN: 0341-0382.

- AB The application of the thin-agar-layer coated filter culture technique (Yamazaki, Y. et al., 1987) has been extended to the detection of ester hydrolysis and 2-hydroxyacid oxidn. by microbial colonies. The former was performed by spraying bromocresol purple and the latter with a salicylhydrazide reagent. Under the optimized conditions, the hydrolysis activity of more than 20 .mu.mol/h/g-wet cells and the oxidn. activity of more than 40 .mu.mol/h/g-wet cells were usually detected directly on the filter-plate cultures of bacteria, yeasts, and molds.
- IT 115-40-2, Bromocresol purple
 (in microorganism hydrolysis of esters detection with plate tests)
- RN 115-40-2 HCAPLUS
- CN Phenol, 4,4'-(1,1-dioxido-3H-2,1-benzoxathiol-3-ylidene)bis[2-bromo-6-methyl- (9CI) (CA INDEX NAME)



- CC 9-15 (Biochemical Methods)
 Section cross-reference(s): 7, 10
- IT 115-40-2, Bromocresol purple
 (in microorganism hydrolysis of esters detection with plate tests)

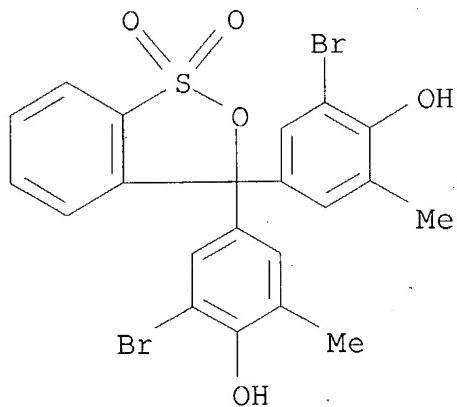
1987:607450 Document No. 107:207450 Electrochemically triggered pH modulation at the ruthenium oxide/electrolyte interface: a spectroelectrochemical probe for the proton transport mechanism. Jang, Guang Way; Tsai, Eric W.; Rajeshwar, Krishnan (Univ. Texas, Arlington, TX, 76019, USA). Journal of the Electrochemical Society, 134(9), 2377-8 (English) 1987. CODEN: JESOAN. ISSN: 0013-4651.

AB The interfacial pH changes during H⁺ injection from the RuO₂ phase in thin-layer voltammetry were examd. The dye bromocresol purple was used as a pH indicator. The visible spectra of bromocresol purple were recorded as a function of the potential (or charge) in the cathodic and anodic scanning.

IT 115-40-2, Bromocresol purple
(visible spectra of, pH change on ruthenium dioxide electrode in relation to)

RN 115-40-2 HCPLUS

CN Phenol, 4,4'-(1,1-dioxido-3H-2,1-benzoxathiol-3-ylidene)bis[2-bromo-6-methyl- (9CI) (CA INDEX NAME)



CC 72-11 (Electrochemistry)

Section cross-reference(s): 73, 76, 79

ST local pH bromocresol purple; ruthenium dioxide electrode proton injection; hydrogen ion transport **electrolytic cell**; pH indicator dye visible spectrum

IT **Electrolytic cells**

(thin-layer, with bromocresol purple, for measuring local pH)

IT 115-40-2, Bromocresol purple

(visible spectra of, pH change on ruthenium dioxide electrode in relation to)

L9 ANSWER 37 OF 53 HCPLUS COPYRIGHT 2004 ACS on STN

1986:628701 Document No. 105:228701 Fountain pens for multicolor writings. Ishii, Koichi (Pilot Pen Co., Ltd., Japan). Jpn. Tokkyo Koho JP 61023119 B4 19860604 Showa, 7 pp. (Japanese). CODEN:

JAXXAD. APPLICATION: JP 1977-2159 19770112.

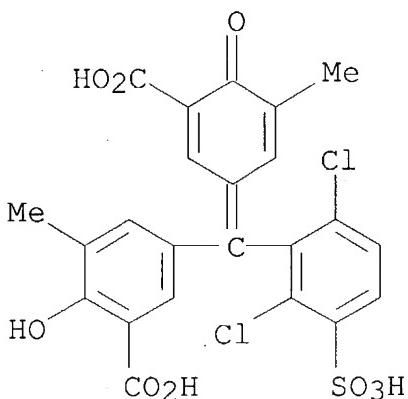
AB A fountain pen, equipped with an ink reservoir, a pen tip, and an ink channel which has an electrode connected to the pen tip (used as another electrode), is filled with an redox dye-contg. ink to give a multicolor mark by applying d.c. which may be supplied by a built-in **battery**. Thus, a mixt. of 2.5 parts Na molybdophosphate and 0.5 part glycerin in 7 parts ink changed color from yellow to blue upon application of 2 V.

IT 1667-99-8

(inks contg., for writing pens equipped with **batteries**, in multicolor writings)

RN 1667-99-8 HCAPLUS

CN Benzoic acid, 5-[(3-carboxy-5-methyl-4-oxo-2,5-cyclohexadien-1-ylidene)(2,6-dichloro-3-sulfophenyl)methyl]-2-hydroxy-3-methyl-, trisodium salt (9CI) (CA INDEX NAME)



●3 Na

IC ICM B41M005-20

ICS B43K008-00

CC 42-12 (Coatings, Inks, and Related Products)

IT Pens

(formation, equipped with **batteries**, redox inks for, for multicolor writings)

IT Dyes

(redox, inks contg., for writing pens equipped with **batteries**, in multicolor writings)

IT 64-02-8D, metal complex 115-41-3 523-44-4 573-58-0

1667-99-8 59088-14-1 105521-68-4 105521-69-5

105521-70-8

(inks contg., for writing pens equipped with **batteries**,

in multicolor writings)

L9 ANSWER 38 OF 53 HCPLUS COPYRIGHT 2004 ACS on STN
1985:28334 Document No. 102:28334 Electrochemical reactivity of aromatic compounds for use in lithium cells. Tobishima, Shinichi; Yamaki, Junichi; Yamaji, Akihiko (Ibaraki Electr. Commun. Lab., Nippon Telegr. and Teleph. Public Corp., Tokai, 319-11, Japan). Journal of Applied Electrochemistry, 14(6), 721-9 (English) 1984. CODEN: JAELBJ. ISSN: 0021-891X.

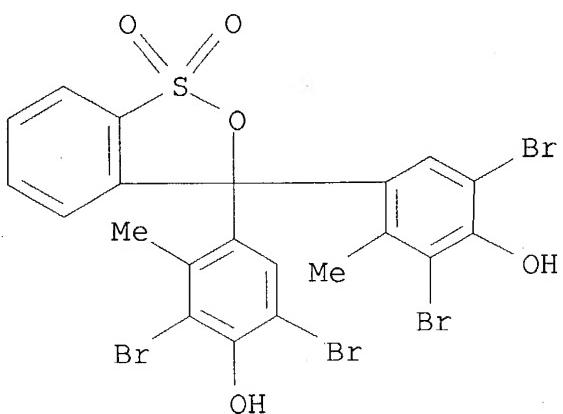
AB The electrochem. reactivity of arom. compds. coupled with Li in LiClO₄-propylene carbonate was studied. Simple arom. compds., Ph₃CH compds., and quinone imine dyes were used. Discharge results for arom. cathode-Li cells indicated that the relation between discharge voltage measured and redn. potential reported was approx. linear, which suggested that the discharge products were ion complexes. Also, the discharge voltage increased with an increase of their electron-accepting groups and with a decrease of the electron-donating strength of alkyl groups in their amino end groups. Among these compds., rosaniline derivs., bromo-substituted phenol red and thiazine dyes showed discharge voltages of 2.5 V. Methylene blue (MB) [61-73-4] showed the largest energy d., 363 W-h/kg. Details of MB charge-discharge behavior were examd. The dynamic charge-discharge tests and cyclic voltammetry results suggested that the MB-Li cell could be cycled at .1toreq.2 electrons/mol of MB depth. A direct reaction between the Li anode and dissolved MB is small, as indicated by the Li⁺ conductive film formation on the Li anode.

IT 76-60-8 596-27-0 603-45-2
1733-12-6

(cathode active material, lithium battery, performance of)

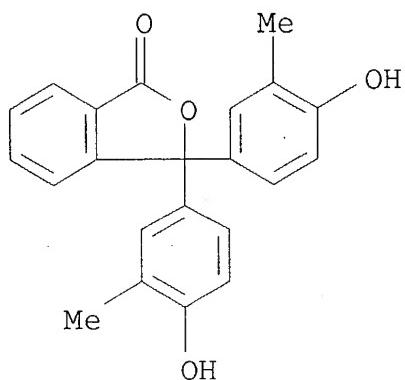
RN 76-60-8 HCPLUS

CN Phenol, 4,4'-(1,1-dioxido-3H-2,1-benzoxathiol-3-ylidene)bis[2,6-dibromo-3-methyl- (9CI) (CA INDEX NAME)



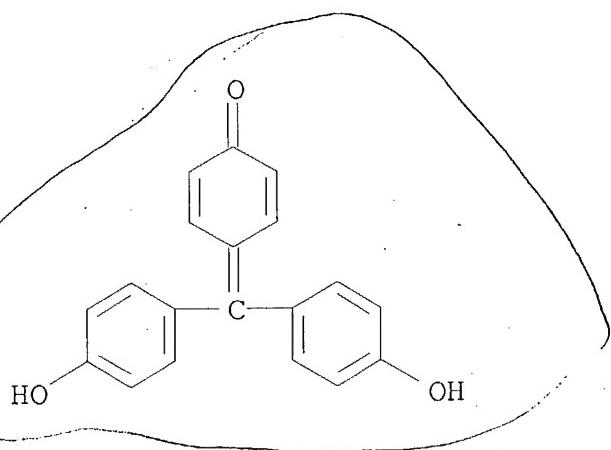
RN 596-27-0 HCPLUS

CN 1(3H)-Isobenzofuranone, 3,3-bis(4-hydroxy-3-methylphenyl)- (9CI)
(CA INDEX NAME)

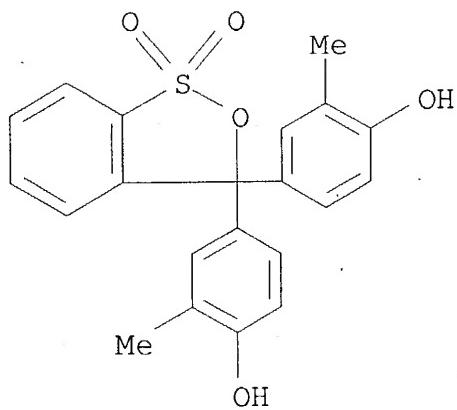


RN 603-45-2 HCPLUS

CN 2,5-Cyclohexadien-1-one, 4-[bis(4-hydroxyphenyl)methylene]- (9CI)
(CA INDEX NAME)



RN 1733-12-6 HCAPLUS

CN Phenol, 4,4'-(1,1-dioxido-3H-2,1-benzoxathiol-3-ylidene)bis[2-methyl-
(9CI) (CA INDEX NAME)]CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
Section cross-reference(s): 25, 41, 72ST lithium **battery** arom compd; rosaniline deriv lithium
battery; bromophenol red lithium **battery**; thiazine
dye lithium **battery**; methylene blue lithium
battery; cathode arom compd lithium **battery**;
triphenylmethane compd lithium **battery**; quinone imine dye
compd **battery**

IT Cathodes

(batteries, arom. compd. active material-contg.,
performance of lithium-)IT 61-73-4 76-59-5 76-60-8 85-01-8, uses and
miscellaneous 91-20-3, uses and miscellaneous 92-24-0 115-39-9
120-12-7, uses and miscellaneous 129-00-0, uses and miscellaneous
143-74-8 198-55-0 548-62-9 553-24-2 581-64-6
596-27-0 603-45-2 632-99-5 633-03-4

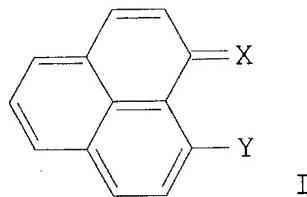
1733-12-6 1787-57-1 2381-85-3 2679-01-8 6104-59-2

12768-78-4 37251-80-2

(cathode active material, lithium **battery**, performance
of)

L9 ANSWER 39 OF 53 HCAPLUS COPYRIGHT 2004 ACS on STN
 1984:106667 Document No. 100:106667 Electrically conductive systems
 from substituted phenalenes and their use. Naarmann, Herbert;
 Muench, Volker; Koehler, Gernot; Simak, Petr (BASF A.-G., Fed. Rep.
 Ger.). Ger. Offen. DE 3217097 A1 19831110, 20 pp. (German).
 CODEN: GWXXBX. APPLICATION: DE 1982-3217097 19820507.

GI



AB Air-stable systems with an elec. cond. of >1 .times. 10-3/ (.OMEGA.-cm) were prep'd. by reacting a cation of VII, VIII, or I subgroup metals with a 1,9-substituted phenalene (I) (where X = O, NH, S, Se, or Te and Y = OH, NH₂, or SH) to form a metal chelate and by oxidizing the chelate with an org. electron acceptor. The polymers can be used in manuf. of solar cells, elec. and magnetic switches, and **batteries** and for antistatic plastic accessories. Thus, bis(9-amino-1-phenalenonato)Ni(II) was prep'd. and oxidized with chloranil and the product had a cond. of 0.13/ (.OMEGA.-cm).

IT 88537-54-6P

(prepn. and elec. cond. of, for energy use)

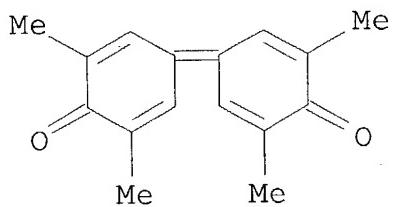
RN 88537-54-6 HCAPLUS

CN Palladium(1+), bis(9-amino-1H-phenalen-1-onato-N,O)-, salt with 4-(3,5-dimethyl-4-oxo-2,5-cyclohexadien-1-ylidene)-2,6-dimethyl-2,5-cyclohexadien-1-one (9CI) (CA INDEX NAME)

CM 1

CRN 4906-22-3

CMF C16 H16 O2

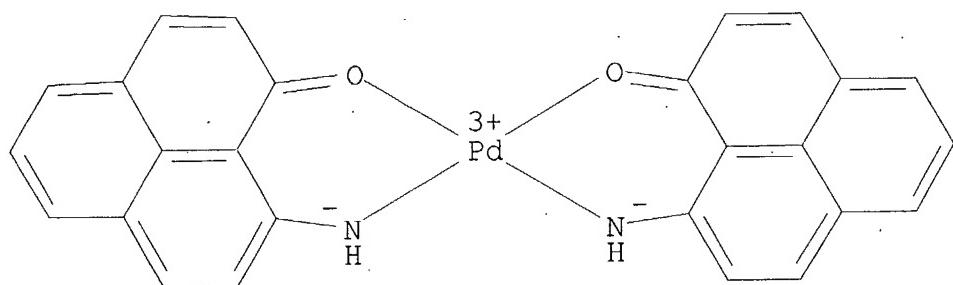


CM 2

CRN 88853-92-3
 CMF C26 H16 N2 O2 Pd . C16 H16 O2

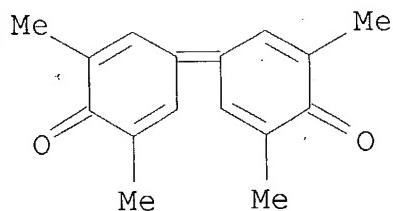
CM 3

CRN 88537-51-3
 CMF C26 H16 N2 O2 Pd
 CCI CCS



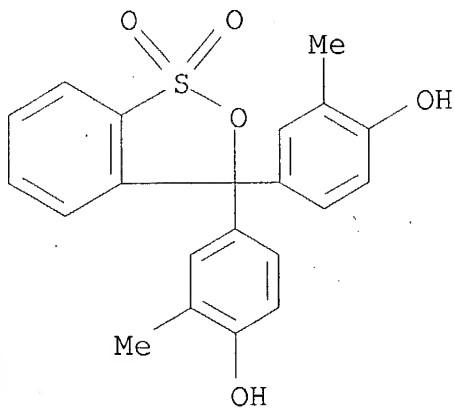
CM 4

CRN 29837-85-2
 CMF C16 H16 O2
 CCI RIS



IC C07C097-10; C08K005-56; G05F001-66; H01L031-18; H01L023-52;
H05F001-02; H01B001-12
 CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
 Section cross-reference(s): 38, 76
 ST solar cell conductive polymer; **battery** conductive polymer;
 bisaminophenalenonatonickel chloranil polymer cond
 IT **Batteries**, primary
Batteries, secondary
 Electric switches and switching
 Photoelectric devices, solar
 (polymers from substituted phenalenes for, elec. conductive)
 IT 88537-54-6P 88551-77-3P 88551-79-5P
 (prepn. and elec. cond. of, for energy use)

L9 ANSWER 40 OF 53 HCPLUS COPYRIGHT 2004 ACS on STN
 1984:10003 Document No. 100:10003 Alkaline **batteries**.
 (Matsushita Electric Industrial Co., Ltd., Japan). Jpn. Kokai
 Tokkyo Koho JP 58106769 A2 19830625 Showa, 3 pp. (Japanese).
 CODEN: JKXXAF. APPLICATION: JP 1981-205419 19811218.
 AB Alk. **batteries** have a sealer contg. a nonwoven or laminate
 paper, which changes color at an alk. pH, to detect electrolyte
 leakage. Thus, a paper seal treated with an EtOH soln. contg.
 Cresol red [1733-12-6] was used to indicate an alk.
 electrolyte leakage.
 IT 1733-12-6
 (**battery** sealers contg., for detection of electrolyte
 leakage)
 RN 1733-12-6 HCPLUS
 CN Phenol, 4,4'-(1,1-dioxido-3H-2,1-benzoxathiol-3-ylidene)bis[2-methyl-
 (9CI) (CA INDEX NAME)]



IC H01M006-50; H01M002-08
 CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)

ST battery alk electrolyte leakage; Cresol red
 battery electrolyte leakage
 IT Batteries, primary
 (with sealers contg. indicators for detection of electrolyte
 leakage)
 IT 1733-12-6
 (battery sealers contg., for detection of electrolyte
 leakage)

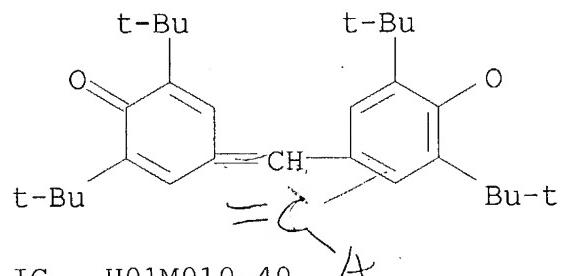
L9 ANSWER 41 OF 53 HCPLUS COPYRIGHT 2004 ACS on STN
 1983:543195 Document No. 99:143195 **Battery.** Pokhodenko, V.
 D.; Koshechko, V. G.; Barchuk, V. I.; Isagulov, K. S. (USSR). U.S.
 US 4397922 A 19830809, 13 pp. (English). CODEN: USXXAM.
 APPLICATION: US 1981-305810 19810925.

AB A **battery** comprises a cathode and an anode including active materials dissolved in an electrolyte based on an org. solvent, and a diaphragm for sepg. the cathode from the anode. The cathode-active material is a stable cation radical of an arom. amine or a heterocyclic compd., or a stable free radical of an arom. O- or N-contg. compd.. The anode-active material is a stable anion radical of an arom. compd. Thus, a **battery** based on tris(4-bromophenyl)amine radical cation [37881-41-7], naphthalene radical anion [34509-91-6], and M NaClO₄ in THF electrolyte was assembled. The **battery** with 3.8-4.7 V was cycled for >100 times. The resp. values for comparison **battery** are 2.0-4.0 V and 1-8 cycles.

IT 2370-18-5
 (cathode-active medium, **battery**, org.-electrolyte)

RN 2370-18-5 HCPLUS

CN Phenoxy, 4-[[3,5-bis(1,1-dimethylethyl)-4-oxo-2,5-cyclohexadien-1-ylidene]methyl]-2,6-bis(1,1-dimethylethyl)- (9CI) (CA INDEX NAME)



IC H01M010-40
 NCL 429105000
 CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
 ST **battery** free radical ion; bromophenylamine radical ion
battery; naphthalene radical ion **battery**
 IT Batteries, secondary
 (org.-electrolyte, with stable free radical ions and free

radicals)

- IT 16592-08-8, uses and miscellaneous 34509-91-6, uses and
miscellaneous 34509-92-7, uses and miscellaneous
(anode-active medium, **battery**, org.-electrolyte)
IT 1898-66-4 2370-18-5 2700-36-9 21296-82-2 34507-27-2
34510-35-5 34516-45-5 34527-55-4 34956-41-7 37881-41-7
56545-30-3
(cathode-active medium, **battery**, org.-electrolyte)

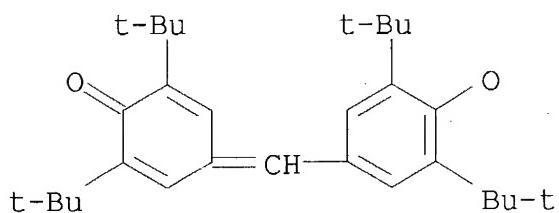
L9 ANSWER 42 OF 53 HCAPLUS COPYRIGHT 2004 ACS on STN
1983:456522 Document No. 99:56522 **Battery** with organic
electrolyte. Pokhodenko, V. D.; Koshechko, V. G.; Barchuk, V. I.;
Isagulov, K. S. (Pisarzhevskii, L. V., Institute of Physical
Chemistry, USSR). Ger. Offen. DE 3138668 A1 19830428, 52 pp.
(German). CODEN: GWXXBX. APPLICATION: DE 1981-3138668 19810929.

AB A **battery**, for autonomous power supply for electronic
devices, comprises a cathode which includes an active medium
dissolved in an electrolyte based on org. solvents, an anode, and a
separator. The cathode active medium is a stable free radical
cation of an arom. amine or a heterocyclic compd. or a stable free
radical of an arom. O- or N-contg. compd. The anode, which includes
a working medium dissolved in an electrolyte based on org. solvents,
is a stable free radical anion of an arom. compd. Thus, a
battery based on tris(4-bromophenyl)amine radical cation
[37881-41-7], naphthalene radical anion [34509-91-6], and M NaClO₄
in THF electrolyte was assembled. The **battery** with
3.8-4.7 V was cycled for >100 times vs. 2.0-4.0 V and 1-8 cycles for
a comparison **battery**.

IT 2370-18-5
(cathode-active medium, **battery**, org.-electrolyte)

RN 2370-18-5 HCAPLUS

CN Phenoxy, 4-[(3,5-bis(1,1-dimethylethyl)-4-oxo-2,5-cyclohexadien-1-
ylidene)methyl]-2,6-bis(1,1-dimethylethyl)- (9CI) (CA INDEX NAME)



- IC H01M006-16; H01M004-60
CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
ST **battery** free radical ion; bromophenylamine radical ion
battery; naphthalene radical ion **battery**
IT **Batteries**, secondary

(org.-electrolyte, contg. stable free radical ions and free radicals)

- IT 16592-08-8, uses and miscellaneous 34509-91-6, uses and miscellaneous 34509-92-7, uses and miscellaneous
 (anode-active medium, **battery**, org.-electrolyte)
 IT 1898-66-4 2370-18-5 2700-36-9 21296-82-2 34507-27-2
 34510-35-5 34516-45-5 34527-55-4 34956-41-7 37881-41-7
 56545-30-3
 (cathode-active medium, **battery**, org.-electrolyte)

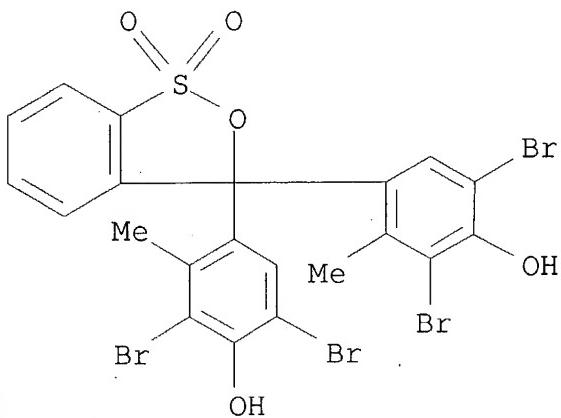
L9 ANSWER 43 OF 53 HCAPLUS COPYRIGHT 2004 ACS on STN
 1981:628011 Document No. 95:228011 Lithium **battery**. (Nippon Telegraph and Telephone Public Corp., Japan). Jpn. Kokai Tokkyo Koho JP 56118271 19810917 Showa, 6 pp. (Japanese). CODEN: JKXXAF.
 APPLICATION: JP 1980-21574 19800225.

AB A compact high discharge capacity primary or secondary **battery** employs an acid-base indicator as the cathode-active material, Li as the anode, and an electrolyte which is chem. inert towards the cathode-active material as well as Li and does not impede the transport of Li⁺ during the electrochem. reaction.

IT 76-60-8 596-27-0
 (cathodes contg., in lithium **batteries**)

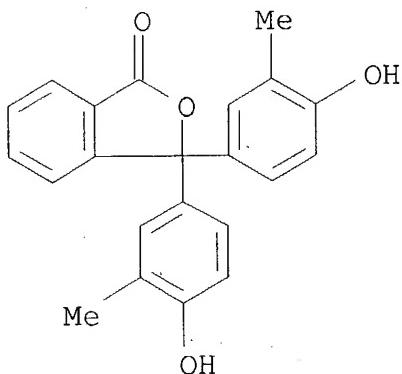
RN 76-60-8 HCAPLUS

CN Phenol, 4,4'-(1,1-dioxido-3H-2,1-benzoxathiol-3-ylidene)bis[2,6-dibromo-3-methyl- (9CI) (CA INDEX NAME)



RN 596-27-0 HCAPLUS

CN 1(3H)-Isobenzofuranone, 3,3-bis(4-hydroxy-3-methylphenyl)- (9CI)
 (CA INDEX NAME)



IC H01M006-16; H01M004-06; H01M006-18; H01M010-36

CC 72-2 (Electrochemistry)

ST **battery** lithium anode acid base; acid base indicator
cathode lithium

IT **Batteries**, primary
(lithium, with acid-base indicators as cathodes)

IT 7439-93-2, uses and miscellaneous
(anodes, in **batteries** with acid-base indicators as
cathodes)

IT 76-60-8 115-39-9 493-52-7 547-57-9 573-58-0
587-98-4 596-27-0 34487-61-1 34722-90-2
(cathodes contg., in lithium **batteries**)

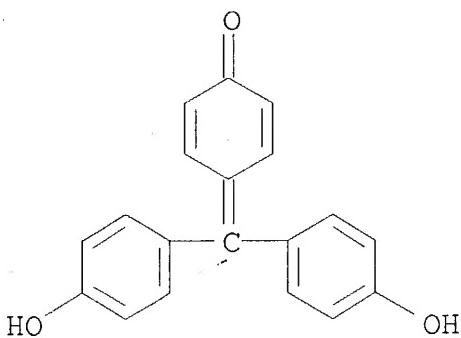
L9 ANSWER 44 OF 53 HCPLUS COPYRIGHT 2004 ACS on STN
1981:628002 Document No. 95:228002 Lithium **battery**. (Nippon
Telegraph and Telephone Public Corp., Japan). Jpn. Kokai Tokkyo
Koho JP 56103871 19810819 Showa, 7 pp. (Japanese). CODEN: JKXXAF.
APPLICATION: JP 1980-5769 19800123.

AB In a **battery** employing a triphenylmethane dye as the
cathode active material and Li as the anode active material, the
electrolyte is chem. inert towards the cathode active material and
Li and Li⁺ is transported during the electrochem. reaction.

IT 603-45-2
(cathodes contg., for lithium **batteries**)

RN 603-45-2 HCPLUS

CN 2,5-Cyclohexadien-1-one, 4-[bis(4-hydroxyphenyl)methylene]- (9CI)
(CA INDEX NAME)

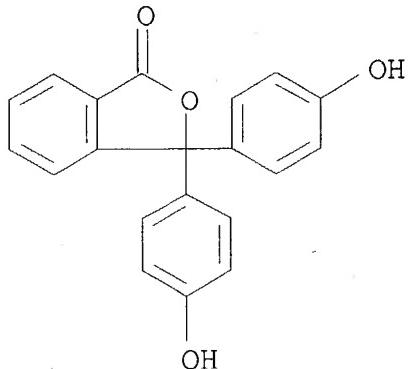


IC H01M004-60
 CC 72-2 (Electrochemistry)
 ST lithium anode triphenylmethane dye cathode; **battery**
 lithium triphenylmethane dye
 IT Carbon black, uses and miscellaneous
 (cathodes contg., for lithium **batteries**)
 IT **Batteries**, primary
 (lithium-triphenylmethane dyes)
 IT Dyes
 (triphenylmethane, cathodes contg., for lithium **batteries**)
 IT)
 IT 7439-93-2, uses and miscellaneous
 (anodes, in primary **batteries** with triphenylmethane
 dyes)
 IT 548-62-9 569-61-9 603-45-2 3571-36-6 12768-78-4
 79990-81-1
 (cathodes contg., for lithium **batteries**)

L9 ANSWER 45 OF 53 HCPLUS COPYRIGHT 2004 ACS on STN
 1981:199827 Document No. 94:199827 Solder plating process. Kohl, Paul
 A. (Bell Telephone Laboratories, Inc., USA). U.S. US 4263106
 19810421, 4 pp. (English). CODEN: USXXAM. APPLICATION: US
 1979-108963 19791231.

AB A process which uses org. compds. as additives is described for the
 electroplating of Pb, Sn, and their alloys. The org. compds. are
 selected from the group consisting of lactones, lactams, cyclic
 sulfate esters, cyclic imides and cyclic oxazolinones with .gtoreq.1
 arom. ring and .ltoreq.100 C atoms. A typical bath contains: Pb (as
 Pb(BF₄)₂) 8-65, Sn (as Sn(BF₄)₂) 15-100, free HBF₄ 50-600,
 phenolphthalein 0.005-5, and octyphenoxy(10)polyethoxyethanol 0.2-20
 g/L. Smooth, bright electroplates are obtained.
 IT 77-09-8
 (in electroplating, of lead and tin and their alloys)
 RN 77-09-8 HCPLUS
 CN 1(3H)-Isobenzofuranone, 3,3-bis(4-hydroxyphenyl)- (9CI) (CA INDEX)

NAME)



IC C25D003-32; C25D003-36; C25D003-60

NCL 204043000S

CC 72-6 (Electrochemistry)

Section cross-reference(s): 76

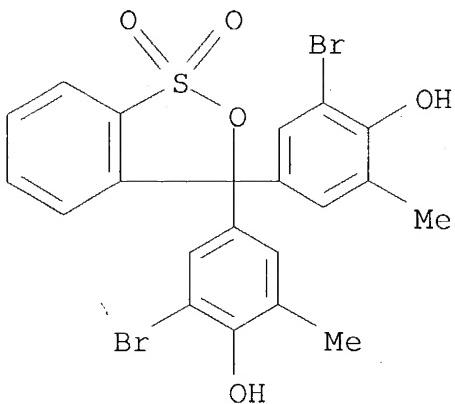
ST lead tin electroplating org additive; heterocyclic org compd
electroplating additive; polyether phenolphthalein electroplating
additive; PTFE diaphragm brine **electrolytic cell**
; chlorine sodium hydroxide electroprodn brineIT 77-09-8 9063-89-2
(in electroplating, of lead and tin and their alloys)

L9 ANSWER 46 OF 53 HCPLUS COPYRIGHT 2004 ACS on STN

1981:22093 Document No. 94:22093 The computerized determination of
double-layer capacitance with the use of Kalousek-type waveforms and
its application in titrimetry. Bos, M. (Dep. Chem. Technol., Twente
Univ. Technol., Enschede, Neth.). Analytica Chimica Acta, 122(4),
387-94 (English) 1980. CODEN: ACACAM. ISSN: 0003-2670.AB A method for the rapid detn. of double-layer capacitance vs.
potential curves of electrodes is described. An on-line computer is
used to apply Kalousek-type waveforms to the **electrochem.**
cell and to measure the accompanying current response. The
capacitances are detd. from the slope of the plots of log current
vs. time. For 0.1M KCl, the computerized method agrees well with
the bridge method, except for the potential range of 0 to -0.15 V.
The method is very useful for automating titrns. with tensammetric
detection of the end-point. The method is applied to the titrn. of
Ba with a macrocyclic compd. (cryptand 222) and the titrn. of
cetyltrimethylammonium bromide with bromocresol purple. The
accuracy of the titrns. is .+- .2%.IT 115-40-2
(cetyltrimethylammonium bromide titrn. with, computerized double
layer capacitance detn. in relation to)

RN 115-40-2 HCAPLUS

CN Phenol, 4,4'-(1,1-dioxido-3H-2,1-benzoxathiol-3-ylidene)bis[2-bromo-6-methyl- (9CI) (CA INDEX NAME)



CC 72-7 (Electrochemistry)

Section cross-reference(s): 68, 79, 80

IT 115-40-2

(cetyltrimethylammonium bromide titrn. with, computerized double layer capacitance detn. in relation to)

L9 ANSWER 47 OF 53 HCAPLUS COPYRIGHT 2004 ACS on STN

1978:485213 Document No. 89:85213 Effect of zinc and other chemical agents on foot-and-mouth disease virus replication. Polatnick, Jerome; Bachrach, Howard L. (Plum Island Anim. Dis. Cent., Sci. Educ. Adm., Greenport, NY, USA). Antimicrobial Agents and Chemotherapy, 13(5), 731-4 (English) 1978. CODEN: AMACQ. ISSN: 0066-4804.

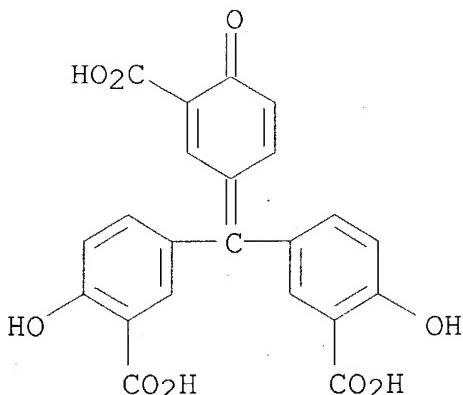
AB Chem. agents reported to inhibit the growth of various RNA and DNA viruses were tested against foot-and-mouth disease virus in cell culture. These included Zn²⁺, aurintricarboxylic acid [4431-00-9], polyribocytidylic acid [30811-80-4], polyriboinosinic acid [30918-54-8], phosphonoacetic acid [4408-78-0], and the viralcontact inactivator N-methylisatin .beta.-thiosemicarbazone [1910-68-5] alone and with CuSO₄. The most effective agent, Zn²⁺, inhibited foot-and-mouth disease virus prodn. in **primary** calf kidney **cells** by 1 log unit at 0.05 mM Zn²⁺ and completely at 0.50 mM. Zn²⁺ was inhibitory even when added late in infection and was nontoxic to uninfected cells as measured by protein and nucleic acid syntheses. Polyacrylamide gel patterns of methionine-35S labeled virus-specific proteins showed increasing amts. of higher-mol.-wt. material, in accord with reports that Zn²⁺ inhibits posttranslational cleavages of other picornavirus precursor polypeptides.

IT 4431-00-9

(foot-and-mouth disease virus replication response to)

RN 4431-00-9 HCAPLUS

CN Benzoic acid, 5-[(3-carboxy-4-hydroxyphenyl)(3-carboxy-4-oxo-2,5-cyclohexadien-1-ylidene)methyl]-2-hydroxy- (9CI) (CA INDEX NAME)



CC 3-2 (Biochemical Interactions)

IT 1910-68-5 4408-78-0 4431-00-9 7440-66-6, biological studies 30811-80-4 30918-54-8

(foot-and-mouth disease virus replication response to)

L9 ANSWER 48 OF 53 HCAPLUS COPYRIGHT 2004 ACS on STN

1975:577967 Document No. 83:177967 Energetics of the organic electrodes of storage batteries. Kergreis, Andre; Auclair, Bernard; Guillou, Michel (Inst. Univ. Technol. Creteil, Univ. Paris, Val-de-Marne, Fr.). Revue Generale de l'Electricite, 84(4), 255-62 (French) 1975. CODEN: RGELAC. ISSN: 0035-3116.

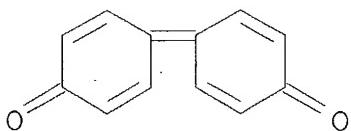
AB The electrochem. activity of phenylenediamines, amino phenols, azo compds., and quinones and their diphenols is reported. Substitution effects are evaluated and energy densities calcd. for use as electrode materials in electrochem. cells.

IT 494-72-4

(electrochem. properties of)

RN 494-72-4 HCAPLUS

CN 2,5-Cyclohexadien-1-one, 4-(4-oxo-2,5-cyclohexadien-1-ylidene)- (9CI) (CA INDEX NAME)



CC 22-8 (Physical Organic Chemistry)
 Section cross-reference(s): 52, 21
 ST electrode org storage **battery**
 IT 58-27-5 83-72-7 84-11-7 84-54-8 84-65-1 117-80-6
 118-75-2, properties 129-43-1 130-15-4 234-85-5 475-38-7
 488-48-2 **494-72-4** 524-42-5 569-15-3 573-12-6
 583-63-1 605-37-8 610-21-9 615-93-0 635-12-1 655-04-9
 695-99-8 1010-60-2 2051-10-7 2065-37-4 2197-57-1 2348-81-4
 2348-82-5 3958-82-5 4733-11-3 5460-35-5 6217-22-7
 7477-57-8 13243-65-7 14423-00-8 18916-57-9 20651-91-6
 24743-18-8 31619-41-7 36051-98-6 51789-39-0 57404-51-0
 57404-52-1 57404-53-2 57404-54-3 57404-70-3
 (electrochem. properties of)

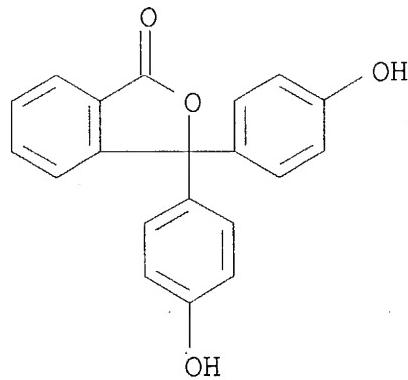
L9 ANSWER 49 OF 53 HCAPLUS COPYRIGHT 2004 ACS on STN
 1975:66125 Document No. 82:66125 Checking the air tightness of a
battery. Lezhnev, P. I.; Baranov, A. I.; Pozin, Yu. M.
 U.S.S.R. SU 434522 19740630 From: Otkrytiya, Izobret., Prom.
 Obraztsy, Tovarnye Znaki 1974, 51(24), 127. (Russian). CODEN:
 URXXAF. APPLICATION: SU 1973-1882763 19730214.

AB For increasing the reliability, the title process is carried out by holding the **battery** in a vacuum 3-5 times for sep. periods of 0.2-1.5 hr each with intervals between vacuum treatments of 0.1-0.5 hr, and detg. electrolyte traces on the surface by using a chem. indicator, e.g., alc. phenolphthalein [77-09-8].

IT 77-09-8
 (in **battery** air tightness detn.)

RN 77-09-8 HCAPLUS

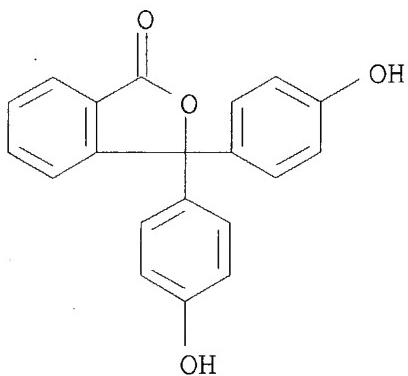
CN 1 (3H)-Isobenzofuranone, 3,3-bis(4-hydroxyphenyl)- (9CI) (CA INDEX NAME)



IC H01M; G01M

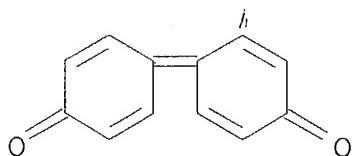
CC 72-2 (Electrochemistry)

- ST **battery** electrolyte air tightness; phenolphthalein air tightness **battery**
- IT **Batteries**, primary
 (air tightness of, detn. of, alc. phenolphthalein indicator for electrolyte traces on surface in)
- IT 77-09-8
 (in **battery** air tightness detn.)
- L9 ANSWER 50 OF 53 HCAPLUS COPYRIGHT 2004 ACS on STN
1974:22144 Document No. 80:22144 Testing storage **batteries**
for internal leakage using a chemically treated test strip.
Weigand, Warren E. U.S. US 3764893 19731009, 7 pp. (English).
CODEN: USXXAM. APPLICATION: US 1971-197399 19711110.
- AB An inexpensive non-electronic test method for storage **batteries** is described. The app. consists of a paper or cloth strip which was impregnated with an electrolyte and an indicator responsive to a product of the electrolysis of said electrolyte. In an example, a paper strip is impregnated with satd. aq. NaCl after an initial treatment with an alc. soln. of phenol-phthalein. The strip is dried and cut into lengths sufficient to span and cover both the pos. and neg. terminals of the **battery** under test. To evaluate the operational capability of the **battery**, the test strip is 1st moistened (to activate (ionize) the NaCl contained therein) and pressed against the neg. terminal. Then, the strip is pressed against both terminals to effect a current flow. A color change (pink in the case at hand) after the 1st pressing indicates a defect due to internal current leakage. After completion of the circuit in the 2nd pressing the intensity and rapidity of the color change is an index of the **battery**'s charge condition.
- IT 77-09-8
 (in **battery** charge and in leakage detn. with paper or cloth strip)
- RN 77-09-8 HCAPLUS
- CN 1(3H)-Isobenzofuranone, 3,3-bis(4-hydroxyphenyl)- (9CI) (CA INDEX NAME)



IC G01N
 NCL 324029500
 CC 77-2 (Electrochemistry)
 ST secondary **battery** charge test strip
 IT **Batteries**, secondary
 (charge and internal leakage of, paper or cloth strip test for)
 IT 77-09-8 7647-14-5, uses and miscellaneous
 (in **battery** charge and in leakage detn. with paper or
 cloth strip)

L9 ANSWER 51 OF 53 HCPLUS COPYRIGHT 2004 ACS on STN
 1972:67434 Document No. 76:67434 Quinone electrodes for primary and
 secondary **batteries**. Alt, Hartmuth; Koehling, Alfons; Von
 Benda, Klaus; Sandstede, Gerd; Binder, Horst (Battelle-Institut
 e.V.). Ger. Offen. DE 2024724 19711125, 9 pp. (German). CODEN:
 GWXXBX. APPLICATION: DE 1970-2024724 19700515.
 AB The quinone-activated C electrodes are recharged with O, while the
 quinones contain electron-attracting groups as substituents.
 Excellent stability and high capacity are claimed.
 IT 494-72-4
 (in activation of carbon electrodes, for primary and secondary
 batteries)
 RN 494-72-4 HCPLUS
 CN 2,5-Cyclohexadien-1-one, 4-(4-oxo-2,5-cyclohexadien-1-ylidene)-
 (9CI) (CA INDEX NAME)



IC H01M

CC 77 (Electrochemistry)
ST carbon quinone electrode; **battery** quinone electrode
IT Electrodes
 (**battery**, carbon, activated by quinone)
IT 7440-44-0, uses and miscellaneous
 (electrodes, quinone-activated, for primary and secondary
 batteries)
IT 106-51-4, uses and miscellaneous 494-72-4 . 583-63-1
 (in activation of carbon electrodes, for primary and secondary
 batteries)

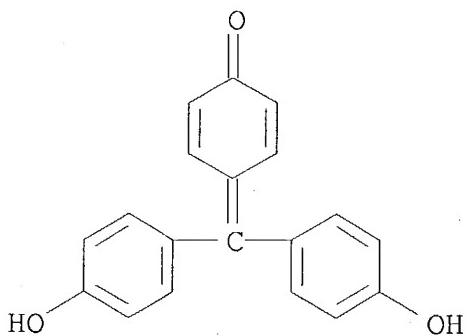
L9 ANSWER 52 OF 53 HCAPLUS COPYRIGHT 2004 ACS on STN
1962:439108 Document No. 57:39108 Original Reference No. 57:7845e-h
Comparison of antimicrobial activity of different dye groups with
their in vitro activity on cells of Ehrlich adenocarcinoma.
Aizenman, B. Yu.; Shvaiger, M. O.; Mandrik, T. P.; Zelepukha, S. I.;
Kiprianova, O. A. Mikrobiol. Zh., Akad. Nauk Ukr. RSR, 22(6), 52-61
(Unavailable) 1961.

AB Of 113 investigated dyes 46 inhibited the Ehrlich ascitic
adenocarcinoma cells in vitro. The sensitivity of cancer
cells to **primary** dyes frequently ran parallel to
their action against *Staphylococcus aureus* No. 209, *Stylonichia*, and
less frequently against *Mycobacterium B5* and *Actinomyces griseus*.
Susceptibility of *Staph. aureus* 209 and its mutants UF-2 and UF-3
differed with the structure of the dye. The original staphylococcal
strain and its 2 mutants were equally susceptible to the action of
dyes of the triphenylmethane group, while the mutants, and
especially UF-2, possessed a considerably higher susceptibility to
acridine dyes than did the original strain; mutant UF-3 was more
susceptible to the action of quinoneimine dyes. Many of the dyes
which depressed cancer cell activity inactivated intracellular
bacteriophage of *Escherichia coli*. The anticancer substances
Embichin, novoembichin, Thio-Tef, degranol, A4 etimodine, embitol,
and myelosan possessed the same type of antiphage activity, though
in different degrees, while 6-mercaptopurine had no antiphage
properties. Intracellular bacteriophage of *E. coli* can be
recommended for use as a preliminary or auxiliary in vitro method
for the detection or selection of promising anticancer preps.

IT 603-45-2, 2,5-Cyclohexadien-1-one, 4-[bis(p-
hydroxyphenyl)methylene]-
(carcinoma inhibition by, bactericidal action and)

RN 603-45-2 HCAPLUS

CN 2,5-Cyclohexadien-1-one, 4-[bis(4-hydroxyphenyl)methylene]- (9CI)
(CA INDEX NAME)



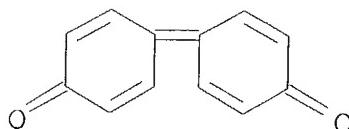
CC 73 (Pharmacodynamics)
 IT 72-48-0, Anthraquinone, 1,2-dihydroxy- 76-82-4, C.I. Basic Violet
 14, carbinol 92-26-2, Acridine, 3,6-diamino-2,7-dimethyl-
 92-31-9, C.I. Basic Blue 17 467-63-0, C.I. Basic Violet 3,
 carbinol 477-73-6, C.I. Basic Red 2 493-52-7, C.I. Acid Red 2
 494-38-2, Acridine, 3,6-bis(dimethylamino)- 569-64-2, C.I. Basic
 Green 4 603-45-2, 2,5-Cyclohexadien-1-one,
 4-[bis(p-hydroxyphenyl)methylene]- 630-98-8, C.I. Basic Green 1,
 carbinol 1260-17-9, Carminic acid 1562-85-2, C.I. Mordant Blue
 10 1837-57-6, Lactic acid, compd. with 6,9-diamino-2-
 ethoxyacridine (1:1) 2103-64-2, Alizarine Violet 2381-85-3, C.I.
 Basic Blue 12 2465-27-2, C.I. Basic Yellow 2 3567-66-6, C.I.
 Acid Red 33 5153-57-1, Acridine, 3-amino-6-(dimethylamino)-2-
 methyl- 8004-87-3, C.I. Basic Violet 1 8005-78-5, C.I. Basic
 Brown 4 15135-52-1, Ammonium, [9-(2-carboxyethyl)-6-
 (dimethylamino)-3H-xanthen-3-ylidene]dimethyl 15905-32-5,
 Fluorescein, 2',4',5',7'-tetraido- 26836-01-1, Fluorescein,
 dichloro- 28983-56-4, C.I. Acid Blue 93 33686-20-3,
 p-Phenylenediamine, N-(p-methoxyphenyl)-, hydrochloride
 37247-10-2, Azure II 37279-96-2, Dahlia Violet 63494-91-7,
 Naphthyl Red 65589-70-0, Acriflavine 98341-60-7, 3H-Phenoxyazine,
 7-(diethylamino)-3-imino-8-methyl-, hydrochloride
 (carcinoma inhibition by, bactericidal action and)

L9 ANSWER 53 OF 53 HCAPLUS COPYRIGHT 2004 ACS on STN
 1958:87051 Document No. 52:87051 Original Reference No. 52:15310g-h
Primary cells. Morehouse, Clarence K.; Glicksman,
 Richard (Radio Corp. of America). US 2836645 19580527
 (Unavailable). APPLICATION: US .

AB **Primary cells** contg. a Mg alloy as the anode and
 a quinone compd. as the cathode are described. The cathode material
 and electrolyte contains 24 g. p-benzoquinone dioxime (I), 12 g.
 acetylene black, 1 g. BaCrO₄, and 25 ml. of an aq. soln. contg. 500
 g. of MgBr₂.6H₂O and 1 g. Li₂CrO₄.2H₂O per l. of H₂O. In the
 cathode mixt., other quinones, such as 2-chloro-p-benzoquinone,

N,2,6-trichloro-p-benzoquinone imine, N,N'-dichloro-p-benzoquinone diimine, o-micron.-benzoquinone, diphenquinone, and 2-nitro-1,2-naphthoquinone can be used instead of I. A diagram of the cell and curves showing discharge time for the various quinone org. compds. are given.

IT 494-72-4, Diphenquinone
 (as primary cell cathode)
 RN 494-72-4 HCPLUS
 CN 2,5-Cyclohexadien-1-one, 4-(4-oxo-2,5-cyclohexadien-1-ylidene)-
 (9CI) (CA INDEX NAME)



CC 4 (Electrochemistry)
 IT 1-Propanol, 2-chloro-2-nitro-, azodiformate
 Naphthoquinone, nitro-
 Nitranilic acid, sodium deriv.
 (as primary cell cathode)
 IT 101-38-2, p-Benzoquinone imine, N,2,6-trichloro- 105-11-3,
 p-Benzoquinone, dioxime 494-72-4, Diphenquinone
 583-63-1, o-Benzoquinone 637-70-7, p-Benzoquinone diimine,
 N,N'-dichloro- 695-99-8, p-Benzoquinone, chloro- 120208-97-1,
 Formamide, 1,1'-azobis-, nitrate
 (as primary cell cathode)